

FOREST EXCISE TAX -- ROAD SUMMARY SHEET

Region: Pacific Cascade

Timber Sale Name: Adverse

Application Number: 30-076631

Excise Tax Applicable Activities

Construction: 29626.3 linear feet

Road to be constructed (optional and required) but not abandoned

Reconstruction: 1707 linear feet

Road to be reconstructed (optional and required) but not abandoned

Abandonment: NA linear feet

Abandonment of existing roads not reconstructed under the contract

Deactivation: _____ linear feet

Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: NA linear feet

Existing road to receive maintenance work (specifically required by the contract) prior to haul

Excise Tax Exempt Activities

Temporary Optional Construction: NA linear feet

Optional roads to be constructed and then abandoned

Temporary Optional Reconstruction: NA linear feet

Optional roads to be reconstructed and then abandoned

New Abandonment: 348 linear feet

Abandonment of roads constructed or reconstructed under the contract

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.

(Revised 7/04)

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
PACIFIC CASCADE REGION

ADVERSE

ROAD PLAN

NE ¼, SW ¼, SE ¼, SECTION 30, TOWNSHIP 10 NORTH, RANGE 04 WEST, W.M.
NE ¼, NW ¼, SECTION 31, TOWNSHIP 10 NORTH, RANGE 04 WEST, W.M.
N ½, SE ¼, SECTION 19, TOWNSHIP 10 NORTH, RANGE 04 WEST, W.M.
NE ¼, S ½, SECTION 24, TOWNSHIP 09 NORTH, RANGE 05 WEST, W.M.
N ½, N ½, SE ¼, SECTION 25, TOWNSHIP 10 NORTH, RANGE 05 WEST, W.M.
E ½, NE ¼, SECTION 26, TOWNSHIP 10 NORTH, RANGE 05 WEST, W.M.
WAHKIAKUM COUNTY

ST. HELENS DISTRICT

AGREEMENT NO.: 30-076631

CONTRACT ADMINISTRATOR: Rich Walfmow

DATE: 11/01/2004

DISTRICT ENGINEER: Robert Hoffman

DRAWN & COMPILED BY: Alicia Compton

SECTION 0 – SCOPE OF PROJECT

This project includes but is not limited to construction including:

- clearing;
- grubbing;
- right-of-way debris disposal;
- excavation and/or embankment to subgrade;
- landing construction;
- bridge construction;
- acquisition and installation of drainage structures;
- acquisition, manufacture, and application of rock;
- grass seeding.

This project also includes but is not limited to reconstruction including:

- pulling ditches;
- cleaning ditches;
- constructing ditches;
- constructing catch basin and headwall;
- cleaning culvert inlets and outlets;
- grading and shaping existing road surface and turnouts.

This project also includes but is not limited to abandonment including:

- medium abandonment.

SECTION 1 - GENERAL CLAUSES

1.1-1

Clauses in this plan apply to all construction, reconstruction, or abandonment including landings unless otherwise noted.

1.1-2 Construction or reconstruction of the following roads is required. All roads shall be constructed or reconstructed on the State's location and in accordance with this Road Plan.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
E-1000	0+00 to 263+27	Construction
Spur A	0+00 to 12+66	Reconstruction
Spur B	0+00 to 16+85	Construction
Spur C	0+00 to 3+48	Construction
E-1000 Reconstruction	0+00 to 17+07	Reconstruction

1.1-4 If the Purchaser desires a road location or design change, a revised Road Plan shall be submitted to the State for consideration.

1.1-5 On this plan quantities are minimum acceptable values. Additional quantities required by the State because of hidden conditions or Purchaser's choice of construction season or techniques shall be at the Purchaser's expense. Hidden conditions include, but are not limited to: solid subsurface rock, subsurface springs, saturated ground, and unstable soil.

1.1-10 Abandonment of the following road is required. All roads shall be abandoned in accordance with this Road Plan.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
Spur C	0+00 to 3+48	Medium

1.2-1 The construction, reconstruction, or abandonment of any roads specified herein shall not be permitted between October 15 and April 15 unless authority to do so is granted, in writing, by the Contract Administrator.

1.2-2 Purchaser shall not use roads constructed or reconstructed under this Road Plan for hauling, other than timber cut on the right-of-way, without written approval from the Contract Administrator.

1.2-6 Pioneering shall not extend past construction that will be completed during the current construction season. Drainage shall be provided on all uncompleted construction as approved, in writing, by the Contract Administrator.

Clearing and grubbing shall be completed prior to starting excavation and embankment.

Culvert placement in live streams shall precede embankment where culverts are to be placed along natural ground.

Culverts shall be installed in completed subgrade as construction progresses.

Subgrade, ditches, and culvert installations shall be completed and are subject to written approval by the Contract Administrator prior to rock application, subgrade compaction, and/or timber haul.

1.4-2 The following roads shall be constructed in accordance with construction stakes.

<u>Road</u>	<u>Stations</u>
E-1000	0+00 to 263+27
Spur B	0+00 to 16+85

1.4-3 Reference points (R.P.'s) that are moved or damaged at any time during construction shall be reset in their original locations by the Purchaser. Excavation and embankment shall not proceed on road segments controlled by said R.P.'s until all moved or damaged R.P.'s are reset.

1.5-1

Maintenance on roads listed in Contract Clauses C-50 (Purchaser Road Maintenance and Repair) and C-60 (Designated Road Maintainer shall be performed in accordance with Forest Access Road Maintenance Specifications.

1.5-2

Roads shall be maintained in a condition that will allow the passage of light administrative vehicles.

1.5-3

On the following road, snowplowing shall not be permitted unless authorized, in writing, by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
E-1000	All

SECTION 2 - CLEARING

2.1-1

Fell all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way or if not marked in the field, between clearing limits specified on TYPICAL SECTION SHEET.

SECTION 3 - GRUBBING

3-1

All stumps shall be removed that fall between grubbing limits shown on the TYPICAL SECTION SHEET. Those outside the grubbing limits but with undercut roots shall also be removed. Stumps over 22 inches diameter shall be split. Stumps over 40 inches shall be quartered.

3-2

Grubbing limits are defined as the entire area between the external limits shown on the TYPICAL SECTION SHEET.

3-3

Within waste and debris areas, removal of stumps shall not be required, provided that they are cut flush with the ground.

SECTION 4 - DEBRIS DISPOSAL AND REMOVAL

4.1-1

Right-of-way debris is defined as all nonmerchantable vegetative material larger than one cubic foot in volume within the grubbing limits.

4.1-2

All right-of-way debris disposal shall be completed prior to the application of rock and/or timber haul.

4.2.3-1

Right-of-way debris shall be scattered outside the grubbing of the road.

4.2.3-2

Right-of-way debris shall not be placed against standing timber.

SECTION 5 - EXCAVATION

5.1-1

Roads shall be constructed or reconstructed in accordance with dimensions shown on the TYPICAL SECTION SHEET.

5.1-2

Purchaser shall not bury merchantable material.

5.1-3

Road grade and alignment shall conform to the State's marked location. Grade and alignment shall have smooth continuity without abrupt changes in direction. Maximum grades are 18 percent favorable and 12 percent adverse. Minimum radius curve is 60 feet.

5.1-4

Minimum extra widening on the inside of curves shall be:

5 feet extra	80 to 100 foot radius curve
7 feet extra	60 to 80 foot radius curve

5.1-7

Roads shall be constructed or reconstructed to the dimensions shown on the TYPICAL SECTION SHEET, within the tolerance listed below. Tolerance classes for each road are listed on the TYPICAL SECTION SHEET.

<u>Tolerance Class</u>	<u>A</u>	<u>B</u>	<u>C</u>
Road Width (feet)	+1.5	+1.5	+2.0
Subgrade elevation (feet +/-)	0.5	1.0	2.0
Centerline alignment (feet lt./rt.)	1.0	1.5	3.0

5.1-8

Excavation slopes shall be constructed no steeper than shown on the following table:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>
Common Earth (on side slopes of 55%)	1:1
Common Earth (55% to 70% sideslopes)	¾:1
Common Earth (on slopes over 70%)	½:1
Fractured or loose rock.....	½:1
Hardpan or solid rock.....	¼:1

5.1-9

Excavation and embankment slopes shall be constructed to a uniform line and left rough for easier revegetation.

5.1-10

Embankments shall be widened as follows:

<u>Height at Centerline</u>	<u>Subgrade Widening</u>
Less than 6 feet	2 feet
6 feet or over	4 feet

5.1-11

Embankment slopes shall be constructed no steeper than shown on the following table:

<u>Material Type</u>	<u>Embankment Slope Ratio</u>
Common Earth and Rounded Gravel.....	1½:1
Angular Rock.....	1¼:1
Sandy Soils	2:1

5.1-12

Organic material shall be excluded from embankment as shown on the TYPICAL SECTION SHEET.

5.1-14

Where side slopes exceed 45 percent, full bench construction shall be utilized for the entire subgrade width.

5.1-17
Turnouts shall be intervisible with a maximum of 1,000 feet between turnouts unless shown otherwise on drawings. Location shall be subject to written approval of the Contract Administrator.

5.1-20
Purchaser shall construct ditches and reconstruct excavation slopes to provide sufficient width for ditches and road surface. Excavated slopes shall be consistent with Clause 5.1-8. Excavated material shall be end hauled to designated waste areas. Pulling ditch material across the road or mixing in with the existing road surface will not be allowed.

5.1.1-1
Waste material shall not be deposited within 50 feet of a cross drain culvert installation.

5.1.1-2
Waste material shall not be deposited within 100 feet of a live stream.

5.1.1-3
Waste material may be deposited adjacent to the road prism on side slopes up to 45 percent if the waste material is compacted and more than 100 feet away from live streams. On side slopes of 45 percent or more, all excavation shall be end hauled or pushed to designated embankment sites. All waste embankments shall be compacted in horizontal layers not exceeding 2 feet.

5.1.1-5
When constructing landings, waste material and embankment shall not be placed on side slopes steeper than 45%.

5.1.1-6
On slopes greater than 45% full bench construction shall be utilized with all excess excavated material end hauled or pushed to designated waste areas or other areas designated by the Contract Administrator.

End Haul/Waste Material Disposal

<u>Road</u>	<u>Stations</u>	<u>Waste Area Location</u>
E-1000	0+00 to 108+02	105+64
E-1000	108+02 to 166+46	125+09
E-1000	166+46 to 190+82	183+60

5.1.1-8
The amount of material to be contained in a waste area shall be at the discretion of the Contract Administrator.

5.2-1
Road pioneering operations shall not undercut the final cut slope, deposit excavated material outside the grubbing clearing right-of-way limits, or restrict drainage.

5.3-1
All embankment and waste material shall be compacted. The minimum acceptable compaction is achieved by placing embankments in 2 foot or shallower lifts and routing excavation equipment over entire width of the lifts. Side hill embankments too narrow to accommodate excavation equipment may be placed by end-dumping or side casting until sufficiently wide to support the equipment.

5.4-1
Silt-bearing runoff shall not be permitted to go into streams.

5.4-3.2

On the following roads, Purchaser shall evenly spread the hydroseed erosion mixture listed below on all soil exposed during the current construction season. The date of application shall be between March 15 to October 15.

- Mixture by Weight/Acre
- 4000 lbs of water
- 1800 lbs of wood fiber mulch
- 400 lbs of fertilizer (16-16-16)
- 80 lbs of seed (50% Red Fescue, 25% Perennial Ryegrass, 15% Bentgrass, 10% Clover)*
- 54 lbs of silvafiber tachifier, or equal to

*Mixture of seed is by percent weight of the total quantity of the seed.

Road	Stations
E-1000	0+00 to 263+27
Spur B	0+00 to 16+85

5.5-4

Constructed or reconstructed subgrades shall be compacted full width except ditch prior to rock application. Compaction shall be by a smooth-drum vibratory roller weighing at least 14,000 pounds. Four complete passes shall be made at a maximum operating speed of 3 mph.

5.5-5

Finished subgrade shall be crowned as shown on the TYPICAL SECTION SHEET, and shall be uniform, firm, rut-free, and shaped to ensure surface runoff in an even, unconcentrated manner.

SECTION 6 - DRAINAGE

6.2.1-1

Purchaser shall furnish, install, and maintain galvanized culverts, Meeting AASHTO Specification No. M-36 corrugated polyethylene pipe (AASHTO specification No. M-294 Type S) and on culverts over 24 inches, aluminized culverts (meeting ASTM A 819, AASHTO M-274 aluminized steel Type 2 and AASHTO M-36 specifications) as designated on the CULVERT LIST. Culvert and flume lengths shall be varied to fit as-built conditions subject to written approval by the Contract Administrator. Multi-plate culverts shall be galvanized steel (AASHTO specifications No. M-36) and meet AASHTO M-167 and ASTM A-761 specifications.

6.2.1-1.1

On all roads, Purchaser shall install and maintain culverts of the length and diameter specified on the CULVERT LIST. Culverts may be new steel or polyethylene or such other material as approved by the Contract Administrator.

6.2.1-2

Annular corrugated bands and culvert ends shall be used on metal culverts. On culverts 24 inches and smaller, bands shall have a minimum width of 12 inches, on culverts over 24 inches, bands shall have a minimum width of 24 inches. Manufacturer's approved connectors shall be used for corrugated polyethylene pipe.

6.2.1-5

On required roads: culverts, downspouts, flumes, bands, and gaskets as listed on the CULVERT LIST, which are not installed, shall become property of the State.

6.2.2.1-1

Culvert, downspout, flume, and energy dissipator installation shall be in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL and the National Corrugated Metal Pipe Association "Installation Manual for Corrugated Steel Drainage Structures" and the Corrugated Polyethylene Pipe Association "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings."

6.2.2.1-2

Purchaser shall provide rubberized gaskets for all culverts with a vertical rise greater than 42 inches.

6.2.2.2-1

Any damaged galvanized coating or cut ends shall be retreated with a minimum of 2 coats of zinc rich paint.

- 6.2.2.3-1
- Cross drains and surface culverts on road grades in excess of 3% shall be skewed at least 30 degrees from perpendicular to the road centerline , except that cross drain culverts at the low points of dips in roads shall not be skewed.
- 6.2.2.3-2
- Cross drain culverts shall be installed at a slope steeper than the incoming ditch grade, but not less than 3% nor more than 10%.
- 6.2.2.4-1
- Installations of culverts 30 inches in diameter and over shall be subject to written approval by the Contract Administrator or Region Engineer or their designee prior to making backfill.
- 6.2.2.5-1
- Drainage structure outfalls shall not terminate directly on unprotected soil that will erode. Downspouts, flumes, and energy dissipators shall be installed to prevent erosion.
- 6.3-1
- Ditches shall be constructed concurrently with construction of the subgrade. Ditches shall drain to culverts, ditchouts, and natural drainages.
- 6.3-2
- On the following road, shaping and constructing of the ditchline, culvert headwalls, and catch basins shall be completed prior to application of rock and timber haul and shall be done in accordance with the TYPICAL SECTION SHEET.

<u>Road</u>	<u>Stations</u>
E-1000 Reconstruction	0+00 to 17+07

- 6.4-1
- Catch basins shall be constructed to resist erosion in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions: two feet wide and four feet long with backslopes consistent with Clause 5.1-8: Excavation Slopes.
- 6.5-1
- Headwalls shall be constructed in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts except for temporary culverts.

SECTION 7 - ROCK

- 7.1-1
- Rock for construction and/or reconstruction under this contract may be obtained from a sources on State land as listed below at no charge to the Purchaser. Development and use shall be in accordance with a written "Development and Reclamation Plan" prepared by the State. A copy of the written plan is available upon request from the Pacific Cascade Region office. Upon completion of operations, the rock source shall be left in the condition specified in said plan, subject to approval by the Contract Administrator. Use of material from any other source must have prior written approval from the Contract Administrator. If other operators are using or desire to use these this rock sources, a joint operating plans shall be developed. All parties shall follow these this plans.

<u>Source</u>	<u>Location</u>
E-1000	Within the reconstruction
Section 30 Pit	Section 30 T10N, R5W
Stockpile	E-1000 / E-1170 Road Jct.

- Rock from other sources must be approved, in writing, by the Contract Administrator.
- 7.1-3
- All rock source operations shall be conducted as directed by the Contract Administrator and in accordance with an approved development plan to be furnished by the Purchaser on file at the Pacific Cascade Region office.

7.2.1-1

Purchaser shall crush rock from the E-1000 road reconstruction to manufacture 4000 cubic yards truck measure of 2 1/2 INCH MINUS rock in accordance with the Washington State Department of Transportation 2004 Standard Specifications for Road, Bridge, and Municipal Construction, Section 9-03.9(1) (Aggregates for Ballast and Crushed Surfacing-Ballast).

7.2.1-2

Purchaser shall manufacture 25,885 cubic yards of 4 INCH MINUS CRUSHED rock from the Section 30 Pit, in accordance with the requirements of the Washington State Department of Transportation 2004 Standard Specifications for Road, Bridge, and Municipal Construction, Section 9-03.9(1), (Aggregates for Ballast and Crushed Surfacing-Ballast), with the following amendments:

The test requirements for Los Angeles West, 500 Rev. Degradation Factor and Sand Equivalent shall be deleted.

4 INCH MINUS CRUSHED rock shall meet the following specifications for gradation and quality when placed in hauling vehicles or during manufacture and placement into a stockpile. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

7.2.1-4

2 1/2 INCH MINUS CRUSHED rock shall meet the following specifications for gradation and quality when placed in hauling vehicles or during manufacture and placement into a stockpile. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

7.2.1.1-5

2 1/2 INCH MINUS CRUSHED ROCK

% passing 2 1/2" square sieve.....	100%
% passing 2" square sieve.....	65 -100%
% passing 1" square sieve.....	50 - 85%
% passing U.S #4 sieve.....	26 - 44%
% passing U.S. #40 sieve.....	16% Max.
% passing U.S. #200 sieve.....	9% Max.

All percentages are by weight.

7.2.1.1-7

4 INCH MINUS ROCK

% equal to, or smaller in one dimension than the specified size	100%
% passing U.S. #40 sieve.....	16% Max.
% passing U.S. #200 sieve.....	5% Max.

All percentages are by weight.

7.2.2-1

Rock crushing operations shall conform to the following specifications:

- a. The Purchaser shall provide a weatherproof field laboratory equipped with gradation testing equipment. This laboratory shall be available for use by the Contract Administrator during the entire crushing operation.

7.2.3-1

Measurement of the 2 1/2 INCH MINUS rock shall be on a cubic yard truck measure basis. Each truck box shall be measured by the Contract Administrator prior to rock hauling. The Contract Administrator shall periodically require that a load be flattened off and its volume calculated. An average of such volumes for each truck shall be used to tally the volume to be hauled. The Purchaser shall provide and maintain load tally sheets for each truck and shall give them to the Contract Administrator upon request.

7.2.3-5

Measurement of the 4 INCH MINUS rock shall be accomplished with either belt scales or certified platform scales provided by the Purchaser.

7.2.3-6

Belt scales shall meet the following specifications:

- a. The belt conveyor scale shall meet the design, marking, installation, and tolerance requirements of Section 1-09.2(4) of the Washington State Department of Transportation's Standard 2004 Specifications except where this contract modifies those requirements.
- b. To test the accuracy of the belt scale, a minimum of two loaded haul trucks must be weighed on a certified platform scale. This weight shall be compared with the belt scale's weight. The compared weight shall not vary more than 0.5%. The Purchaser shall check the scale's accuracy using this method after every 7,000 cubic yards crosses the belt, or when directed by the Contract Administrator.
- c. Under observation of the Contract Administrator, the Purchaser shall run a daily zero load test in accordance with the National Bureau of Standards Handbook No. 44. The contractor shall not be required to perform a daily static load test or a chain test.
- d. The weighing mechanism shall contain a weight totalizer and a self-printing ticket imprinter. The totalizer calibration adjustment and ticket imprinter shall be furnished with a hasp to accept a State padlock. A ticket for each truck shall be made and delivered to the Contract Administrator upon request.

7.2.3-7

State certified platform scales shall meet the following specifications:

- a. The scales shall have an enclosed weatherproof room around the reading device.
- b. The weighing mechanism shall contain a weight totalizer and ticket imprinter. A ticket for each truck shall be made and delivered to the Contract Administrator.
- c. The totalizer calibration adjustment and ticket imprinter shall be furnished with a hasp to accept a State padlock.

7.2.3-8

At the commencement of operations, a weight per cubic yard shall be calculated as follows:

- a. The box of a truck to be used for rock haul shall be measured.
- b. A load of rock shall be flattened off in the truck and its exact volume in cubic yards calculated.
- c. Trucks shall be weighed for tare and gross weight at a State certified platform scale.
- d. The net weight of the load shall be divided by the volume calculated in Step b.

Conversion factors thus calculated shall be valid for no more than 30 days or until rock density or moisture changes significantly, as determined by the Contract Administrator.

7.2.4-1

Rock drilling and shooting shall meet the following specifications:

- a. Oversize material remaining in the rock source at the conclusion of the timber sale shall not exceed 5 percent of the total volume mined for the sale.
- b. Oversize material is defined as rock fragments larger than two feet in any dimension.
- c. The Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator five working days prior to any drilling. (Form #M-126PAC).

7.3-1

Rock stockpiles shall meet the following specifications:

Before placing aggregates upon the stockpile site, the site shall be cleared of vegetation, trees, stumps, brush, rocks, or other debris and the ground leveled to a smooth, firm, uniform surface.

The piles, when completed, shall be neat and regular in shape. The stockpile height shall be limited to a maximum of 24 feet. Stockpiles in excess of 200 cubic yards shall be built up in layers not more than 4 feet in depth. Stockpile layers shall be constructed by trucks, "clamshells" or other methods approved, in writing, by the Contract Administrator. Pushing aggregates into piles with a bulldozer shall not be permitted. Each layer shall be completed over the entire area of the pile before depositing aggregates in the next layer. The aggregate shall not be dumped so that any part of it runs down and over the lower layers in the stockpile. The method of dropping from a bucket or spout in one location so as to form a cone shaped pile will not be permitted.

Stockpiles of different types or sizes of aggregate shall be spaced far enough apart, or separated by suitable walls or partitions, to prevent the mixing of the aggregates.

When removing materials from the face of the stockpile, the equipment shall be operated in such a manner as to face-load from the floor to the top of the stockpile.

7.3-2

Crushed 2 1/2 INCH material shall be stockpiled at the existing stockpile at the junction of the E-1000 and the E-1170 roads.

7.4.2-1

Apply at least the minimum required rock quantity as shown on the ROCK LIST. Required and optional rock shall meet the specifications on the ROCK LIST.

7.4.2-5

Subgrade shall be approved, in writing, by the Contract Administrator prior to application of rock.

<u>Road</u>	<u>Stations</u>
E-1000	0+00 to 263+27
E-1000 Reconstruction	0+00 to 17+07
Spur A	0+00 to 12+66
Spur B	0+00 to 16+85

7.4.2-9

Turnarounds, turnouts, and curve widening shall have rock applied to the same depth and specifications as the traveled way.

7.4.2-10

Each lift of rock shall be crowned as shown on TYPICAL SECTION SHEET, and shall be uniform, firm, rut-free, and shaped to ensure surface runoff in an even, unconcentrated manner.

7.4.3-2

Rock shall be spread and compacted full width in lifts each not to exceed 6 inches uncompacted depth. Compaction shall be by pneumatic-tired or steel-wheeled smooth drum vibratory roller weighing at least 14,000 pounds. Four complete passes at a maximum speed of 3 mph shall be made on each lift.

<u>Road</u>	<u>Stations</u>
E-1000	0+00 to 263+27
Spur A	0+00 to 12+66
Spur B	0+00 to 16+85

7.4.4-1

Riprap shall consist of angular stone, concrete in sacks, or concrete slabs placed on shoulders, slopes, as indicated in this plan, as shown on the TYPICAL SECTION SHEET or as directed by the Contract Administrator.

Loose Riprap - The stone for loose riprap shall be hard, sound and durable. It shall be free from segregation, seams, cracks, and other defects tending to destroy its resistance to weather. Loose riprap shall be free of rock fines, soil, or other extraneous material.

a. Heavy Loose Riprap - Shall meet the following requirements for grading:

<u>At Least/Not More Than</u>	<u>Minimum Size</u>	<u>Maximum Size</u>
40% / 90%	1 Ton (½ cu. yd.)	--
70% / 90%	300 lbs. (2 cu. ft.)	--
10% / 30%	--	50 lbs.

b. Light Loose Riprap - Shall meet the following requirements for grading:

<u>At Least/Not More Than</u>	<u>Size Range</u>	<u>Maximum Size</u>
20% / 90%	300 lbs. to 1 ton	--
80% / --	50 lbs. to 1 ton	--
10% / 20%	--	50 lbs.

7.4.4-2

Riprap shall be set in place in conjunction with or immediately following construction of the embankment. Placement shall be by zero drop height methods only.

SECTION 8 – STRUCTURES

8.3-2

Bridges listed below shall be constructed of steel or re-enforced concrete. Bridges shall be designed by a professional structural engineer licensed in the State of Washington. The design Engineer shall be responsible for ensuring that all materials and procedures used during construction comply with the design. The design engineer shall provide for approval a complete bridge design to the Region Engineer in Castle Rock, Washington. The State will be responsible for approving or rejecting submitted plans on or before 10 working days after receipt of construction plans at the Region Headquarters Office. The Contractor does not have approval to commence purchasing, mobilization, or construction, until written authority to proceed is issued by the Region Office. Upon receiving authority to proceed from the State, the Purchaser shall provide three complete sets of finalized plans to the Region Engineer within three working days following receipt of the approval to proceed. Any omissions to the plans shall be the responsibility of the Purchaser to correct, and to resubmit a finalized set of plans. The Design Engineer shall perform any soil testing necessary for abutment design.

If piling, minimum acceptable depth driven shall be 10 feet below the thalweg of the stream. If a concrete or other structures, footing depth shall be 2 feet below the thalweg of the stream. Wingwalls shall be placed at a minimum angle of 30 degrees to the abutment and have footing depths of 2 feet below the thalweg of the stream.

Any riprap used shall meet the requirements of Heavy Loose Riprap as specified in Section 8-15 of the 2004 Washington State Department of Transportation Standard Specifications for Road, Bridge, and Municipal Construction Handbook.

Placement of abutments or piling shall be no closer to the stream than that of the stations shown on the design. Measurement will be made between the stream side walls of the abutments or pilings.

8.3-2 continued

The Design Engineer shall notify the contract administrator in writing that all elements of each of the following construction stages are in conformance with the design before allowing construction to continue on to the next stage.

- a. Footing forms, iron work, and concrete, including piling, if any.
- b. Abutment forms, iron work, and concrete.
- c. Cap forms, ironwork, concrete, and/or placement.
- d. Superstructure forms, ironwork, concrete, or placement.
- e. Substructure forms, ironwork, concrete, or placement,
- f. Deck forms, ironwork, concrete, or placement.

<u>Road</u>	<u>Station</u>	<u>Length</u>	<u>Loading</u>	<u>W.B.W.G.*</u>
E-1000	141+68.9	44	HL-93	16'
E-1000	190+68.2	51	HL-93	16'

*W.B.W.G. = Width between wheel guards
P.P. = On the attached plan/profile
C.S. = According to construction stakes on the ground.

SECTION 10 - ROAD AND LANDING ABANDONMENT

10.1-1

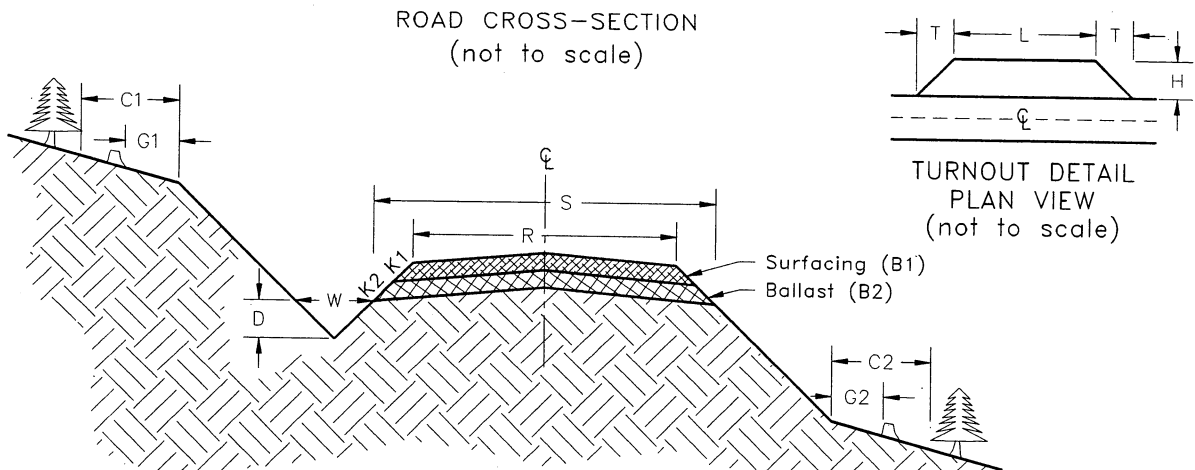
The following roads shall be abandoned by the Purchaser within 30 days following completion of timber harvest removal according to the ROAD ABANDONMENT CROSS SECTIONS DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
Spur C	0+00 to 3+48	Medium

10.1-3

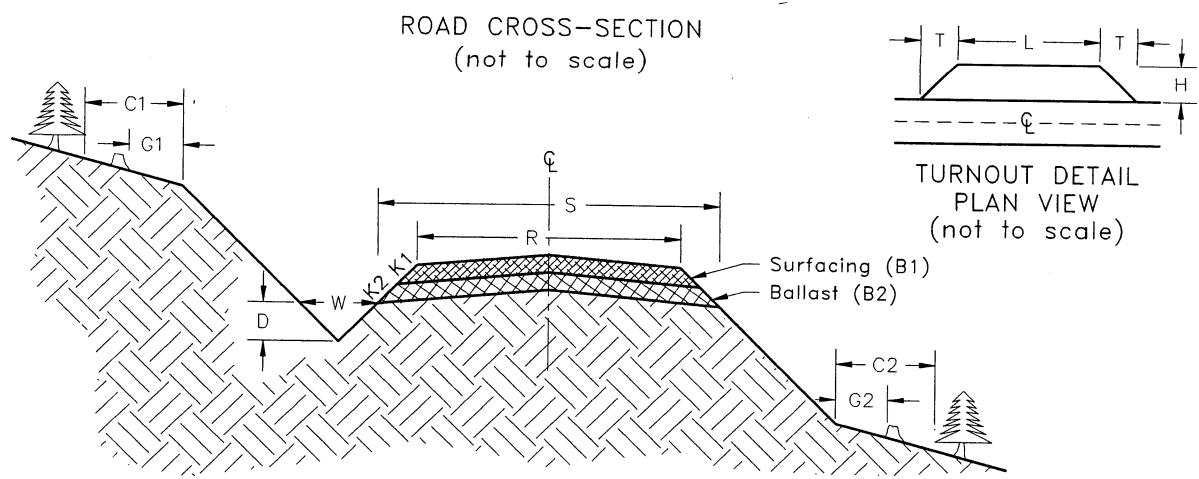
Medium Abandonment shall consist of:
work shall be performed between July 1 and September 30;
Constructing non-drivable water bars, as directed by Contract Administrator, in conformance with the attached NON DRIVABLE WATER BAR DETAIL at a maximum spacing which will produce a vertical drop of no more than 10 feet between water bars or between natural drainage paths and with a maximum spacing of 100 feet;or as marked in the field;
skewing water bars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3% grade;
keying water bars into ditchline;
Covering, concurrently with abandonment, all exposed soils within 100 feet of any live stream, with an 8-inch deep layer of straw.

TYPICAL SECTION SHEET



Road Number	From Station	To Station	Tolerance Class	Subgrade Width	Road Width	Ditch		Crown in. @ CL	Grubbing Limits		Clearing Limits	
				S	R	Width	Depth		G1	G2	C1	C2
E-1000	0+00	263+27	C	18'	12'	3'	1'	4"	5'	5'	15'	15'
Spur A	0+00	12+66	C	18'	12'	3'	1'	4"	5'	5'	15'	15'
Spur B	0+00	16+85	C	18'	12'	3'	1'	4"	5'	5'	15'	15'
Spur C	0+00	3+48	C	18'	12'	3'	1'	4"	5'	5'	15'	15'
E-1000 Existing	0+00	17+06	C	18'	12'	3'	1'	4"	5'	5'	15'	15'

ROCK LIST



BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length	Width	Taper
			K2	B2					L	H	T
E-1000	0+00	179+00	2:1	15	84	179	15,036	Section 30 Pit			
	179+00	264+00	2:1	12	67	84.267	5695	Section 30 Pit			
	Turnouts			15	84	30	2520	Section 30 Pit			
Spur A	0+00	12+66	2:1	12	67	12.662	748	Section 30 Pit			
Spur B	0+00	17+33	2:1	15	84	17.333	1708	Section 30 Pit			
Spur C	0+00	3+38	2:1	12	67	3.48	178	Section 30 Pit			

BALLAST TOTAL 25,886 Cubic Yards

SURFACE

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Total	Rock Source
			K1	B1				
E-1000	0+00	194+00	1 ½:1	6	24	194	4,656	Stockpile
Spur B	0+00	10+20	1 ½:1	6	24	10.2	245	Stockpile

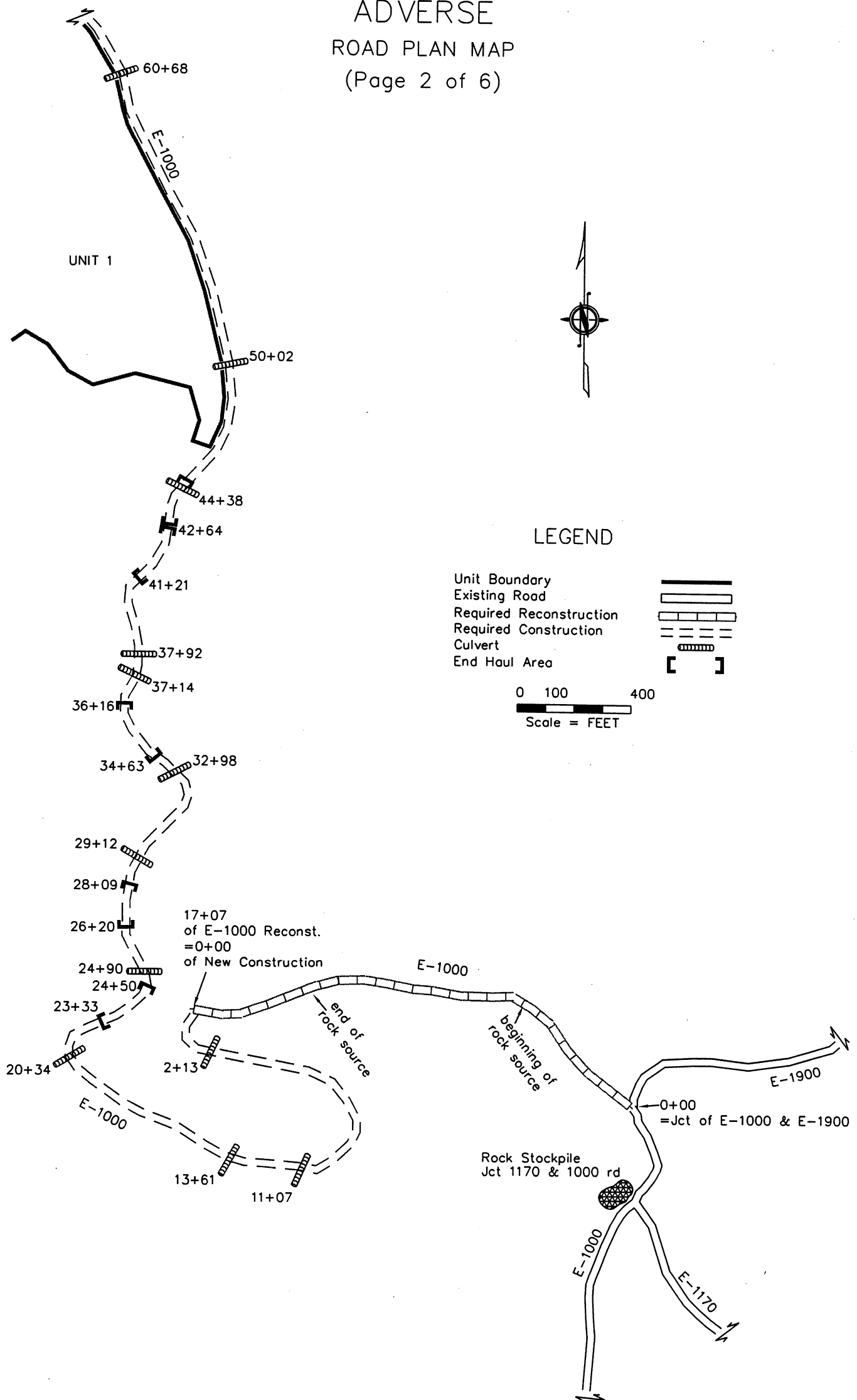
SURFACING TOTAL 4,901 Cubic Yards

Map of the Eloch Mainline 500 area showing five units (UNIT 1 to UNIT 5) and various spurs (Spur A, Spur B, Spur C). The map includes a north arrow and a scale of 1 inch = 2000 feet. The Eloch Mainline 500 is shown as a solid line on the left. Units 1 through 5 are outlined areas. Spurs A, B, and C are indicated by dashed lines. Various well identifiers are shown: E-1000, E-1800, E-1900, and E-1170.

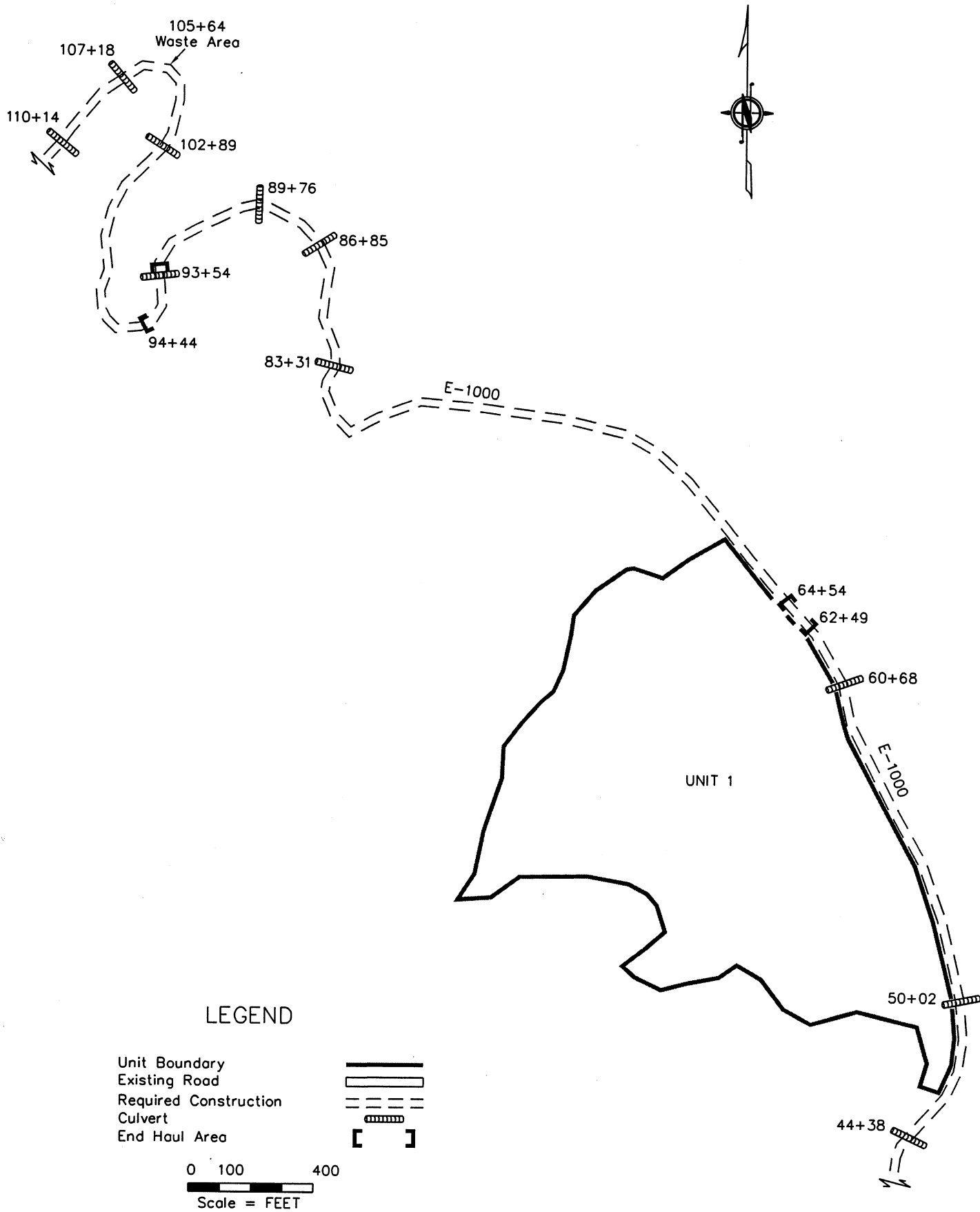
ADVERSE

ROAD PLAN MAP

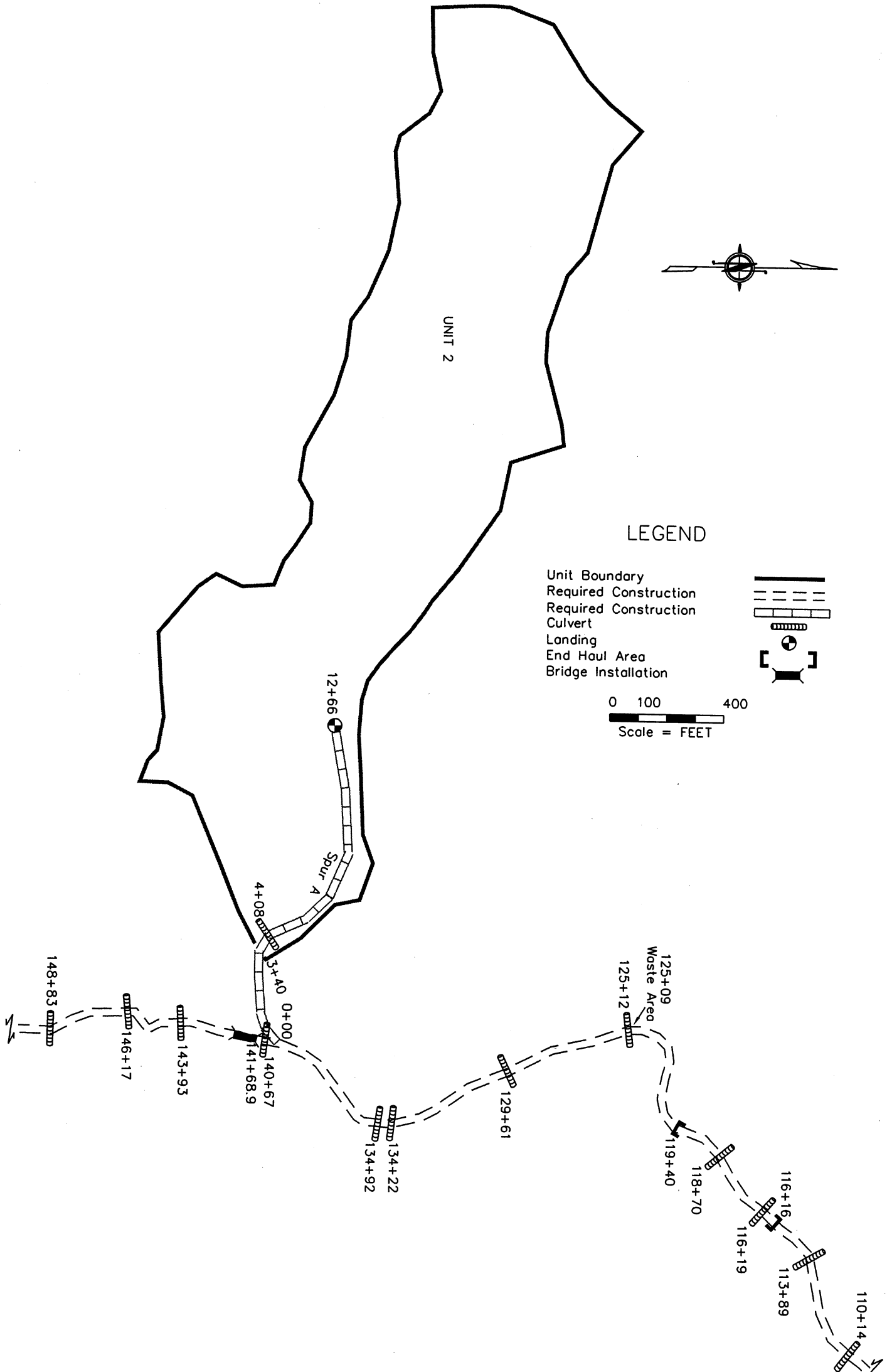
(Page 2 of 6)



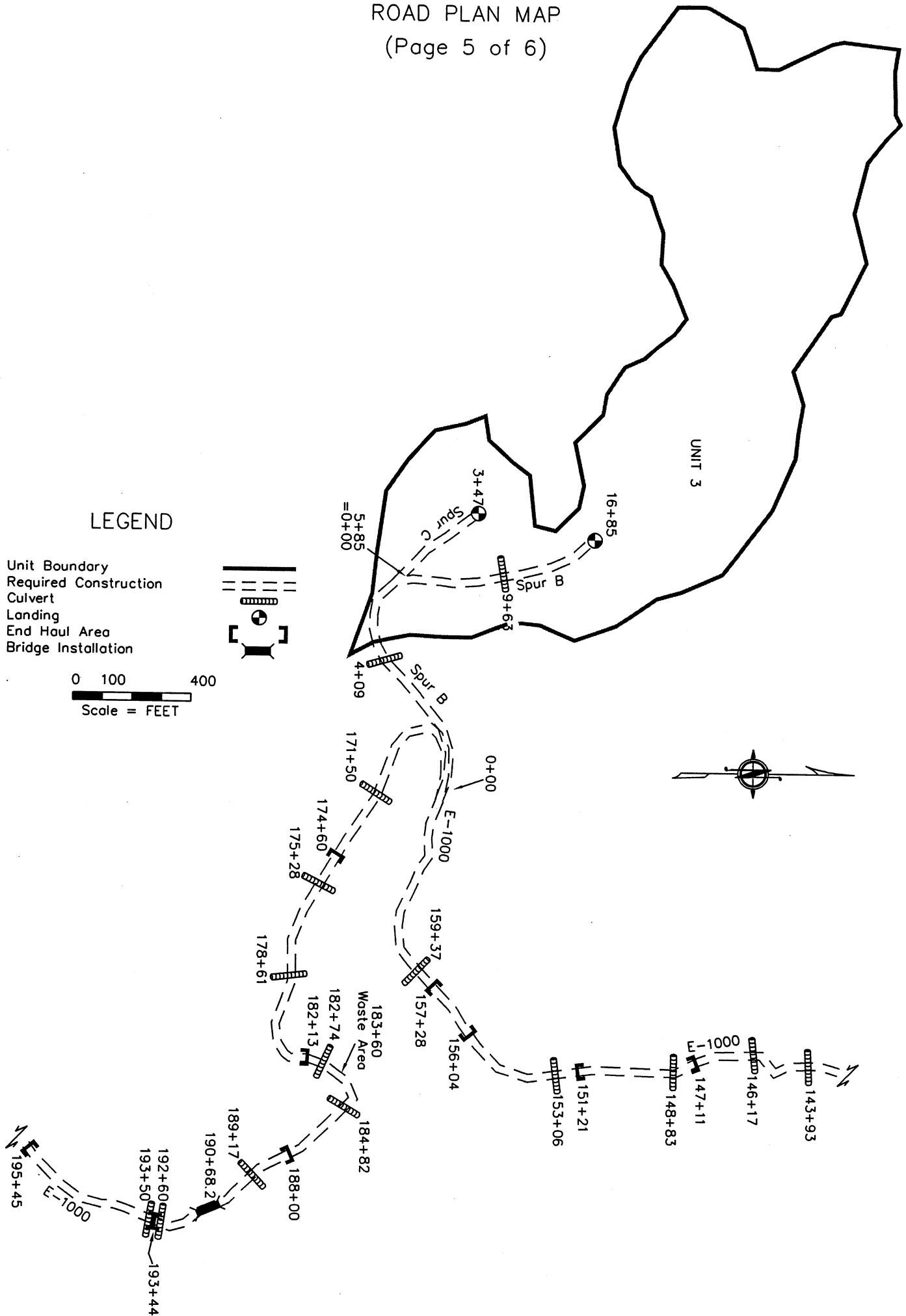
ADVERSE
ROAD PLAN MAP
(Page 3 of 6)



ADVERSE ROAD PLAN MAP (Page 4 of 6)



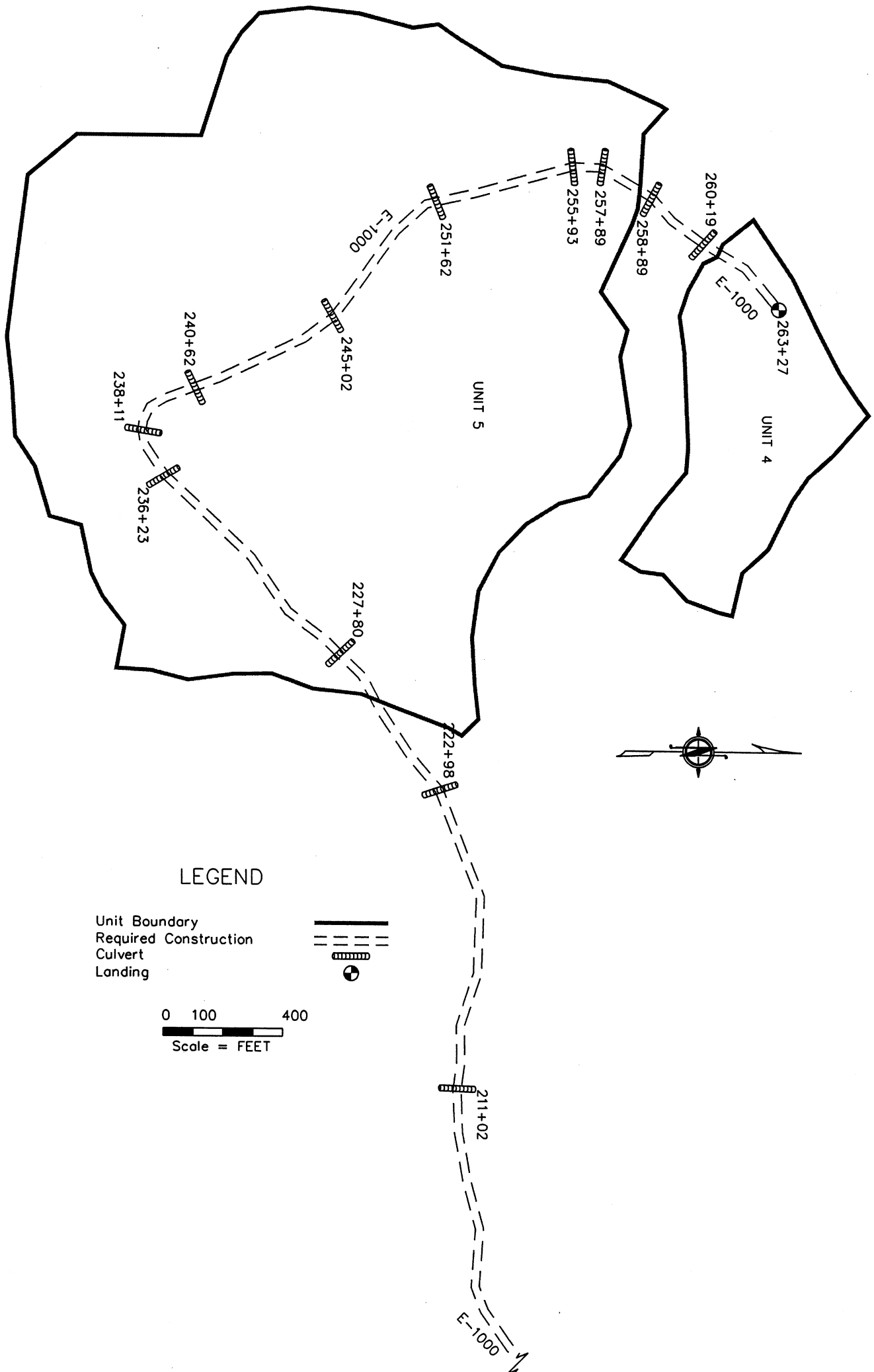
ADVERSE ROAD PLAN MAP (Page 5 of 6)



ADVERSE

ROAD PLAN MAP

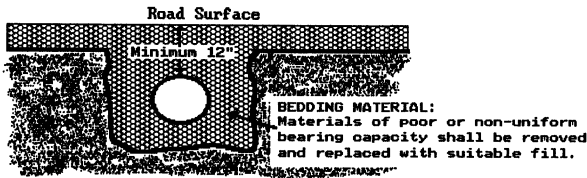
(Page 6 of 6)



CULVERT LIST
(Page 1 of 2)

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material	Placement Method	Const. Staked	Remarks
		Dia.	Gauge	Culvert	Downspt	Flume	Inlet	Outlet	Type				
			If Steel										
E-1000	2+13	18"	16	32	-	-	-	-	-	-	-	-	
	11+07	18"	16	32	-	-	-	-	-	-	-	-	
	13+61	18"	16	26	-	-	-	-	-	-	-	-	
	20+34	18"	16	30	-	-	-	-	-	-	-	-	
	24+90	18"	16	30	-	-	-	-	-	-	-	-	
	29+12	18"	16	45	-	-	-	-	-	-	-	-	
	32+98	18"	16	32	-	-	-	-	-	-	-	-	
	37+14	30"	14	32	-	-	-	-	-	-	-	-	
	37+92	18"	16	38	-	-	-	-	-	-	-	-	
	44+38	18"	16	32	-	-	-	-	-	-	-	-	
	50+02	18"	16	32	-	-	-	-	-	-	-	-	
	60+68	18"	16	32	-	-	-	-	-	-	-	-	
	83+31	18"	16	32	-	-	-	-	-	-	-	-	
	86+85	18"	16	27	-	-	-	-	-	-	-	-	
	89+76	18"	16	30	-	-	-	-	-	-	-	-	
	93+54	18"	16	25	-	8'	-	-	-	-	-	-	
	99+95	18"	16	31	-	-	-	-	-	-	-	-	
	102+89	18"	16	35	-	-	-	-	-	-	-	-	
	107+18	18"	16	33	-	-	-	-	-	-	-	-	
	110+14	18"	16	30	-	-	-	-	-	-	-	-	
	113+89	18"	16	26	-	-	-	-	-	-	-	-	
	116+19	18"	16	27	-	-	-	-	-	-	-	-	
	118+70	18"	16	38	-	-	-	-	-	-	-	-	
	122+40	18"	16	28	-	-	-	-	-	-	-	-	
	125+12	18"	16	32	-	-	-	-	-	-	-	-	
	129+61	18"	16	32	-	-	-	-	-	-	-	-	
	134+22	18"	16	32	-	-	-	-	-	-	-	-	
	134+92	30"	14	95	-	-	-	-	-	-	-	-	
	140+67	18"	16	32	-	-	-	-	-	-	-	-	
	143+93	18"	16	32	-	-	-	-	-	-	-	-	
	146+17	18"	16	28	-	-	-	-	-	-	-	-	
	148+83	18"	16	28	-	-	-	-	-	-	-	-	
	153+06	18"	16	34	-	-	-	-	-	-	-	-	
	159+37	18"	16	30	-	-	-	-	-	-	-	-	
	171+50	18"	16	60	-	-	-	-	-	-	-	-	
	175+28	18"	16	32	-	-	-	-	-	-	-	-	
	178+61	18"	16	32	-	-	-	-	-	-	-	-	
	182+74	24"	16	45	-	-	-	-	-	-	-	-	
	184+82	18"	16	35	-	-	-	-	-	-	-	-	
	189+18	24"	14	26	-	-	-	-	-	-	-	-	
	192+60	18"	16	30	-	-	-	-	-	-	-	-	
	193+52	24"	14	48	-	-	-	-	-	-	-	-	
	211+02	18"	16	30	-	-	-	-	-	-	-	-	
	222+98	18"	16	30	-	-	-	-	-	-	-	-	

CULVERT BACKFILL AND BASE PREPARATION
(For culverts less than 36")



Key:

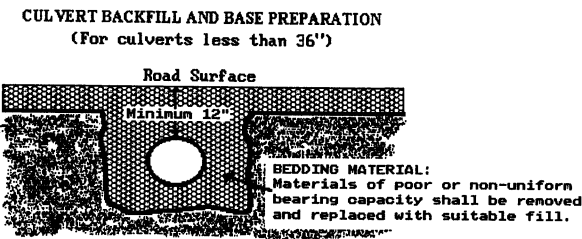
- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- HL - Heavy Loose Riprap
- LL - Light Loose Riprap
- Flume - Half round pipe
- Downspout - Full round pipe

CULVERT LIST
(Page 2 of 2)

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material	Placement Method	Const. Staked	Remarks
		Dia.	Gauge	Culvert	Downspt	Flume	Inlet	Outlet	Type				
			If Steel										
E-1000	227+80	18"	16	25	-	-	-	-	-	-	-	-	
	236+23	18"	16	26	-	-	-	-	-	-	-	-	
	238+11	18"	16	34	-	-	-	-	-	-	-	-	
	240+62	18"	16	73	-	-	-	-	-	-	-	-	
	245+02	18"	16	35	-	-	-	-	-	-	-	-	
	251+62	18"	16	32	-	-	-	-	-	-	-	-	
	255+93	18"	16	38	-	-	-	-	-	-	-	-	
	257+89	18"	16	35	-	-	-	-	-	-	-	-	
	258+89	30"	14	44	-	-	-	-	-	-	-	-	
	260+19	18"	16	30	-	-	-	-	-	-	-	-	
Spur A	4+08	18"	16	50	-	-	-	-	-	-	-	-	
Spur B	4+09	18"	16	36	-	-	-	-	-	-	-	-	
	9+64	18"	16	34	-	-	-	-	-	-	-	-	

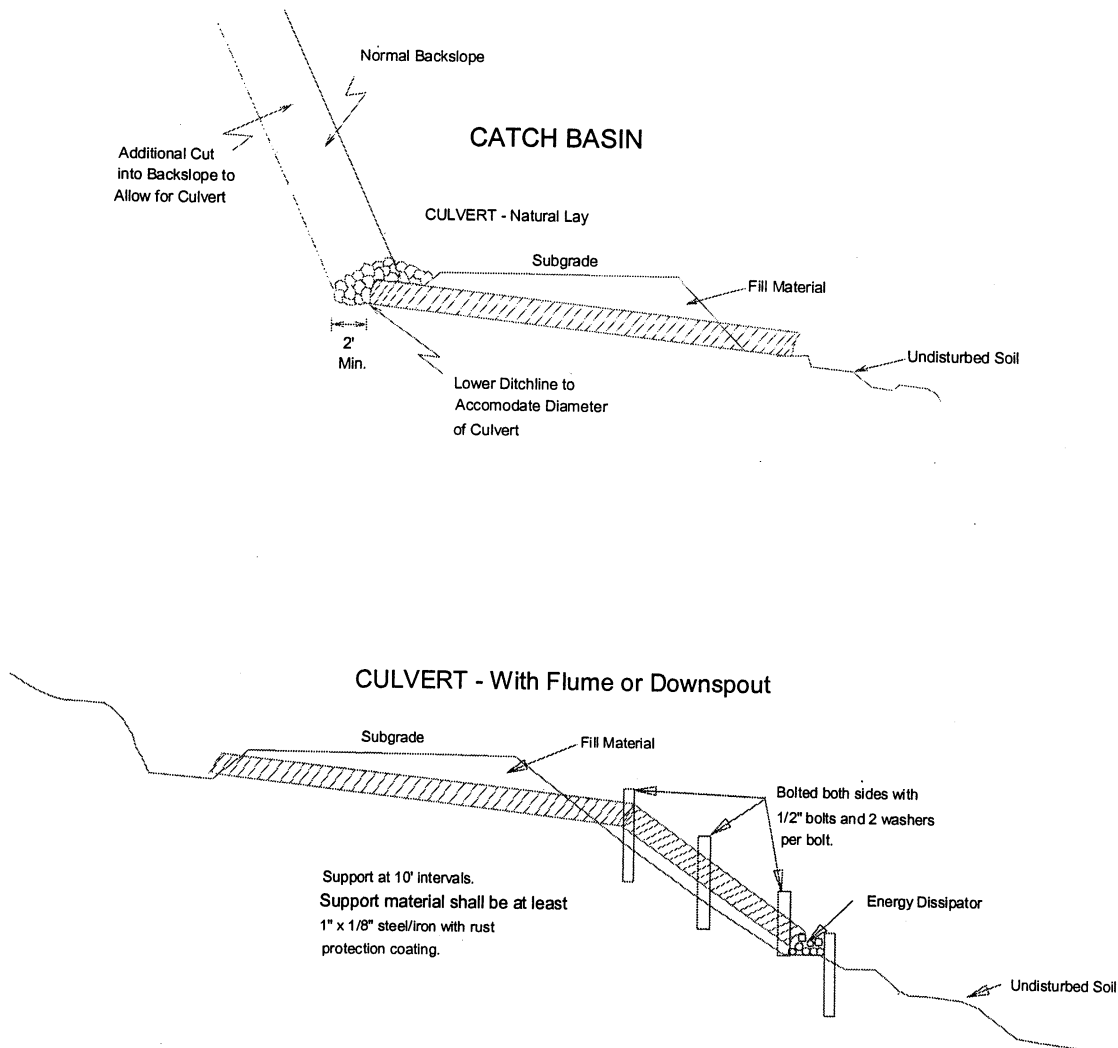
Key:

- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- HL - Heavy Loose Riprap
- LL - Light Loose Riprap
- Flume - Half round pipe
- Downspout - Full round pipe

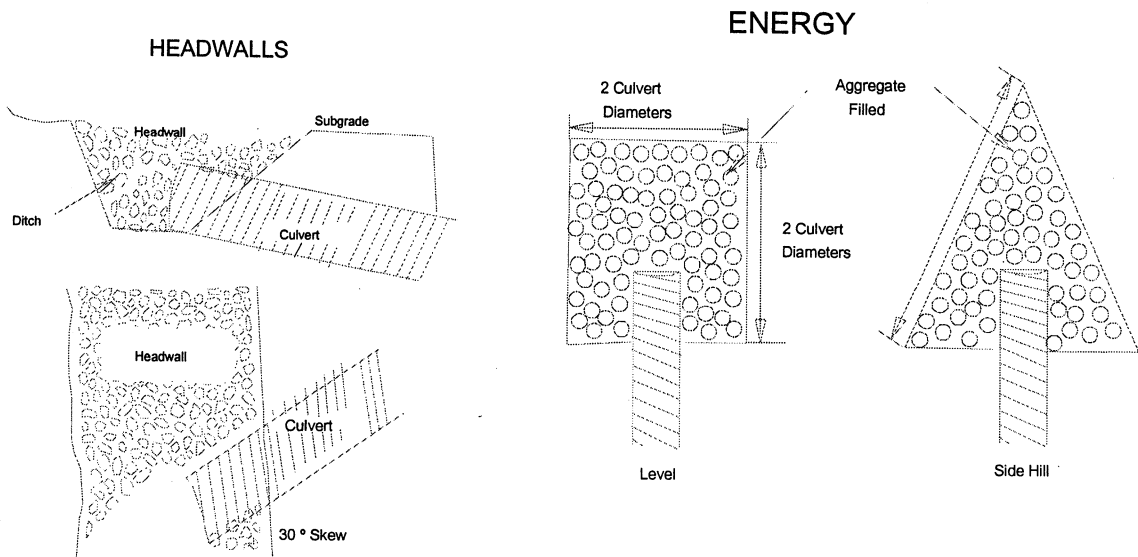


CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 1 of 2)



Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense unyielding base. The backfill material shall be placed so that the pipe is uniformly supported along the barrel.



Headwalls to be constructed of material that will resist erosion.

Dissipator Specifications:
Depth: 1 culvert diameter
Aggregate: as specified in the CULVERT LIST.

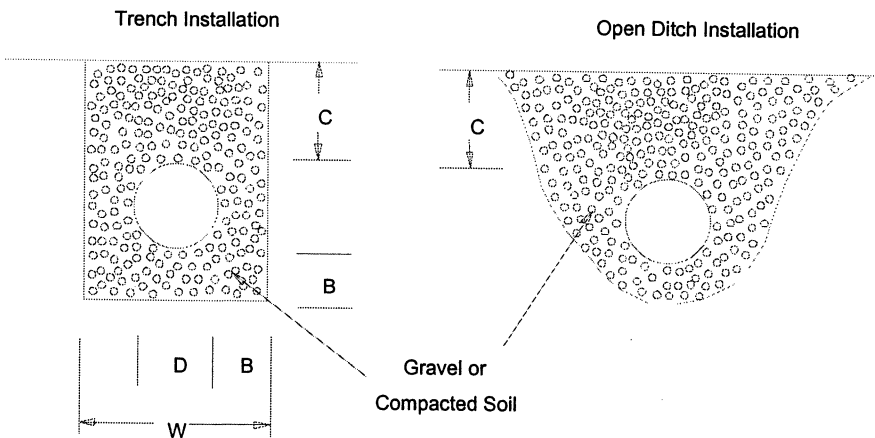
CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 2 of 2)

POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

- 1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.
- 2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.
- 3. Either crushed aggregate or flexible (asphalt) pavement may be laid as part of the minimum cover requirements.
- 4. Site conditions and availability of bedding materials often dictate the type of installation method used.
- 5. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.



MINIMUM DIMENSIONS
Trench or Open Ditch Installation

Nominal Diameter	Minimum Thickness	Minimum Cover	Min. Trench Width
D	B	C	W
18"	6"	12"	36"
24"	6"	12"	42"
30"	6"	12"	48"
36"	6"	12"	54"

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

FOREST ACCESS ROAD
MAINTENANCE SPECIFICATIONS

1. CONSTRUCTION AND RECONSTRUCTION (Prior to acceptance to the contract or acceptance on a timber sale).

A. Cuts and Fills

1. Maintain slope lines as constructed. Remove slides from the ditches and roadway. Replace fills to 1½:1 slopes with selected material or as directed. Remove overhanging material from the cut slopes.
2. Material from slides or other sources requiring removal shall not be deposited in streams or at locations where it will erode into streams or watercourses.
3. Undesirable slide materials and debris shall not be mixed into the surface material.

B. Surface

1. Grade and shape the road surface, turnouts, and shoulders to the original crown, inslope or outslope as directed to provide suitable traveled surface and surface water runoff in an even, unconcentrated manner.
2. Blading must not undercut the backslope at the bottom of the ditchline or cut geotextile at centerline.
3. Watering may be required to control dust and to retain fine surface rock.
4. Desirable surface material shall not be bladed off the roadway.
5. Replace surface material lost or worn away.
6. Remove berms except as directed by the State.
7. Barrel spread soft spots to prevent degradation of geotextile.

C. Drainage

1. Keep ditches and drainage channels at outlets and inlets of culverts clear of obstructions and functioning as intended.
2. Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This must be done even during periods of inactivity.
3. Add stable material at the outlet end of the culvert as needed to stabilize the streambed.
4. Headwalls: maintain to the road shoulder level with material that will resist erosion.
5. Keep silt bearing surface runoff from getting into live streams.

D. Structures

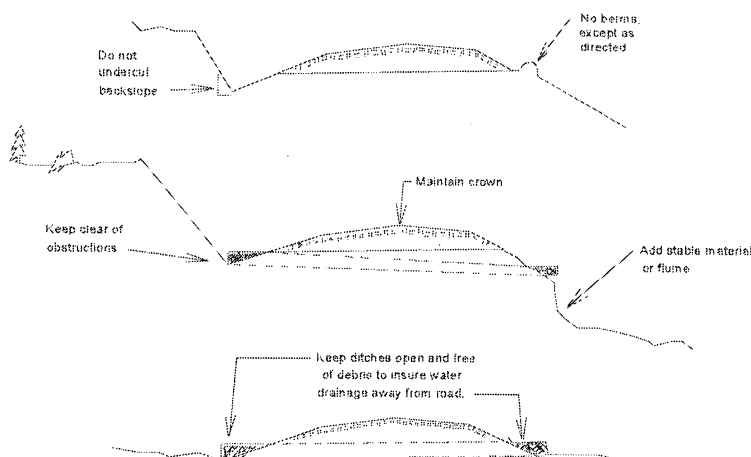
Repair bridges, culverts, cattleguards, fences, and other road structures to the condition required by the construction specifications.

E. Termination of Use or End of Season

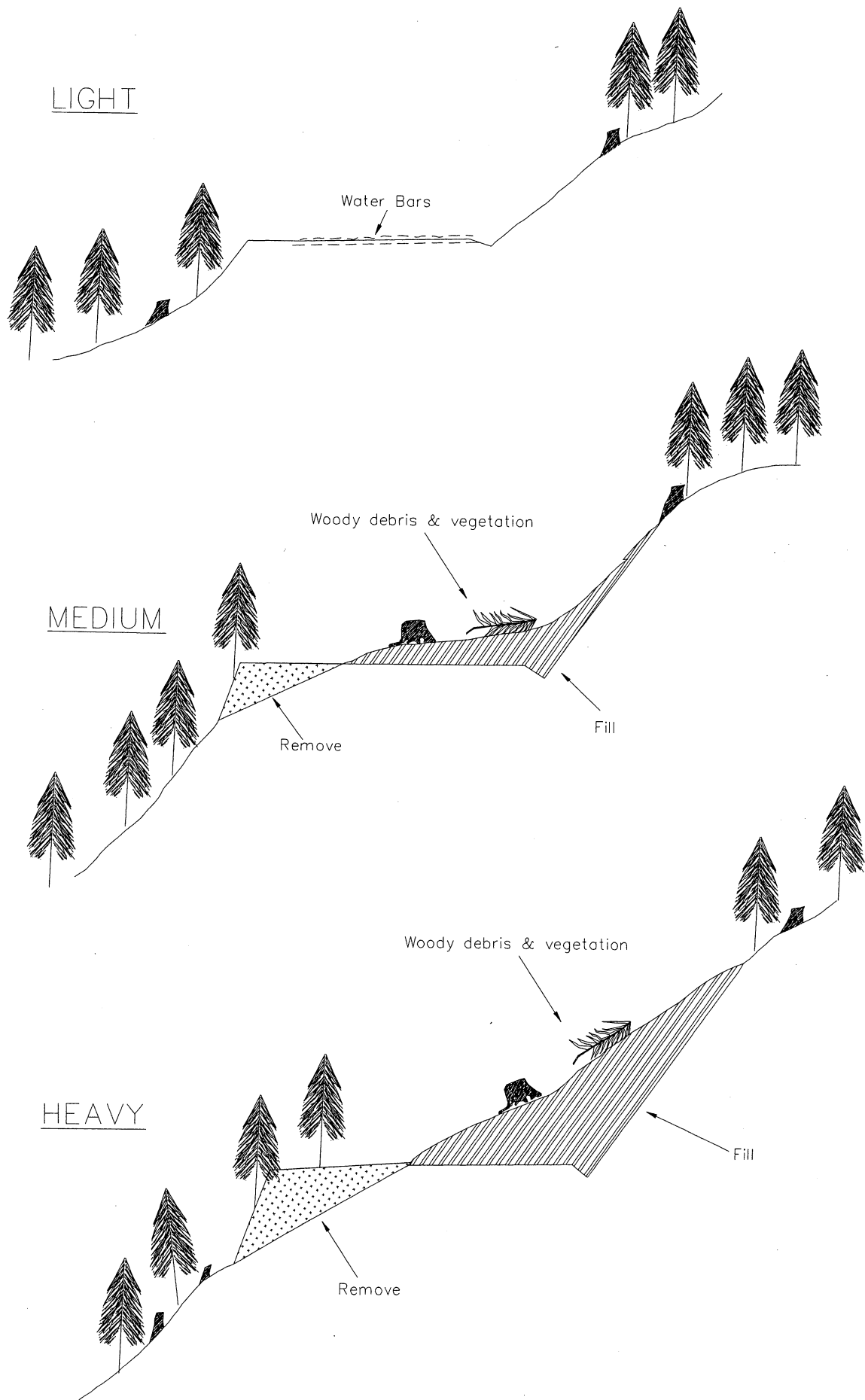
Do maintenance work to minimize damage from the elements such as blading to insure correct runoff, ditch, and culvert cleaning and water bars.

F. Debris

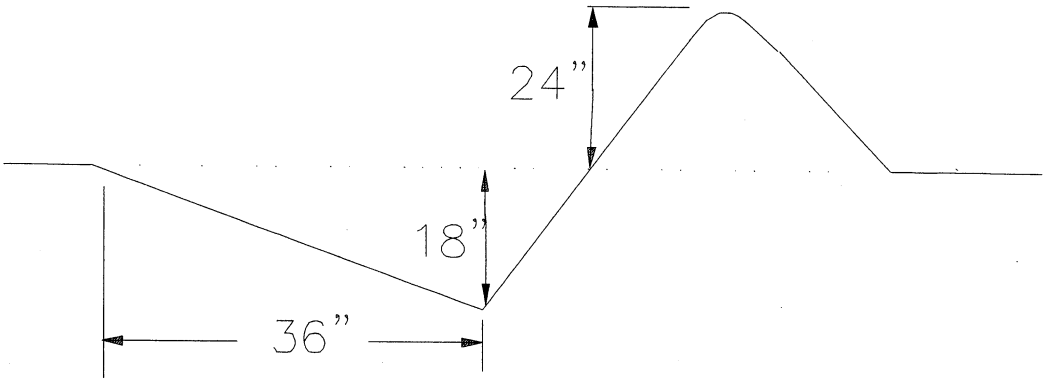
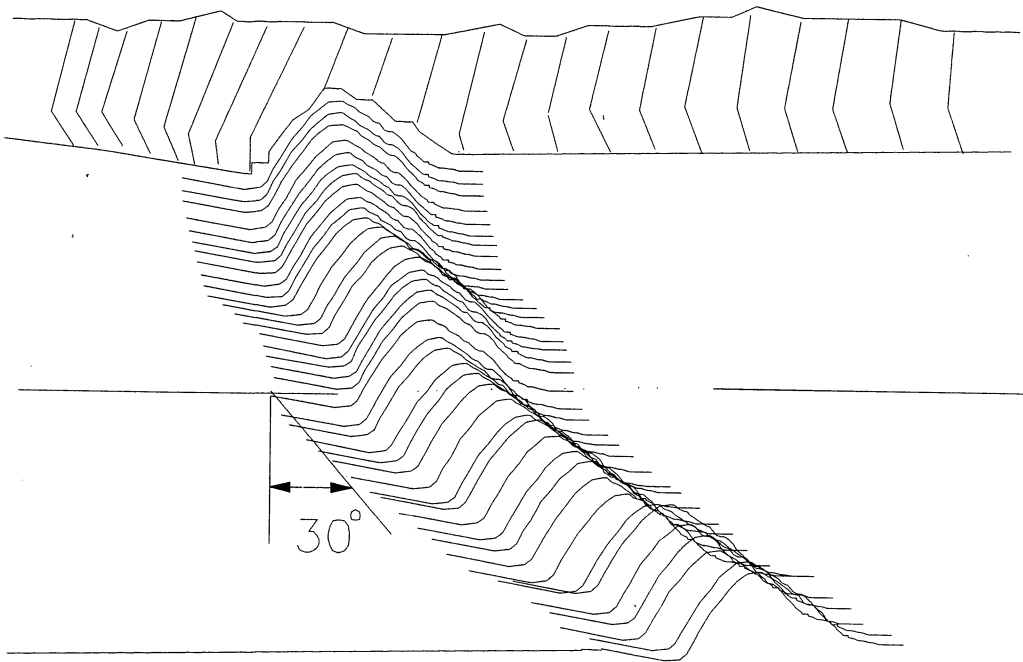
Remove fallen timber, limbs, and stumps from the slopes or roadway.



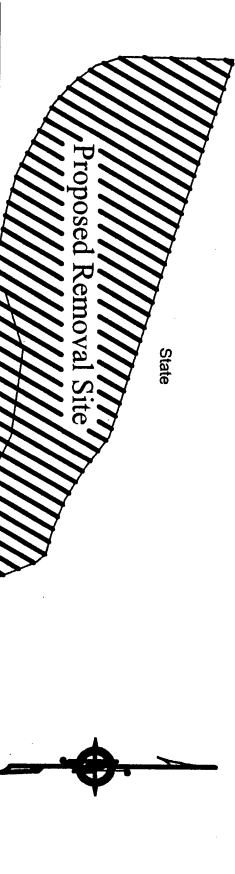
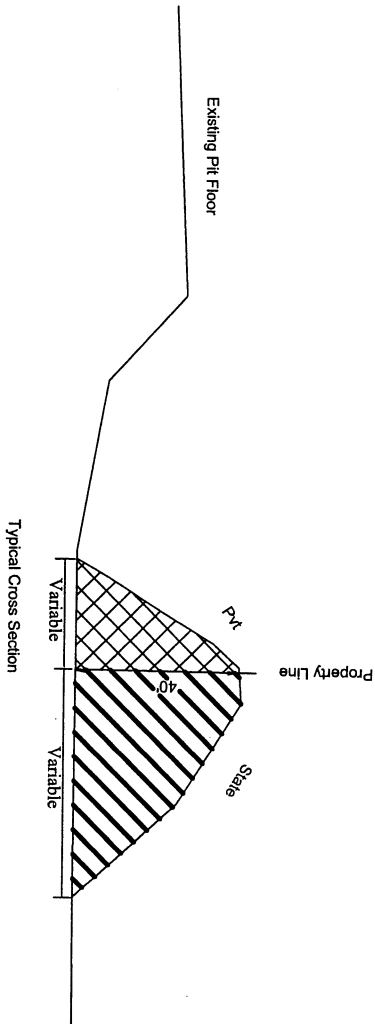
ROAD ABANDONMENT CROSS SECTIONS



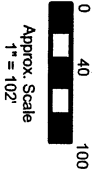
NON-DRIVABLE WATER BAR DETAIL



SECTION 30 PIT PLAN
1/4 SEC. 30, T10N, R04W, W.M.
ADVERSE TIMBERSALE



ZZZ = Proposed Pit Area



Rock removal shall follow removal pattern indicated on this plan sheet. Removal shall be conducted in a top to lower floor manner except where otherwise noted. Pit faces shall be kept to a height not to exceed 30 feet. Pit faces shall be sloped at a rate of 1/2 to 1 ratio unless pit material is solid rock.

Contractor shall submit to the contract administrator for approval, a plan of operations showing crusher location and stockpiling.

Overburden shall be placed in area designated by the contract administrator. Overburden shall be placed and compacted in 2 foot lifts. Woody debris shall be placed in an approved location for disposal at a later time.

Any crushed material not used for the active sale shall be stockpiled in an approved location. Stockpile shall not exceed 25 feet in height unless written approval is given by the contract administrator.

Upon completion of use, the contractor shall leave the pit floor in a clean and graded condition. Contractor shall remove all structures, waste material and equipment and leave the site in a condition that is safe for human, animal and environment.

All operations shall conform to all State and Federal rules and regulation for mining operations.

(Material located on Longview Fibre's segments approximately 8000 cubic yards will be removed and stockpiled in the Lower Pit Floor)
(Longview Fibre agrees to sell approximately 8000 cubic yards, at \$2.00 per yard, to the successful bidder of the Adverse Timber Sale)

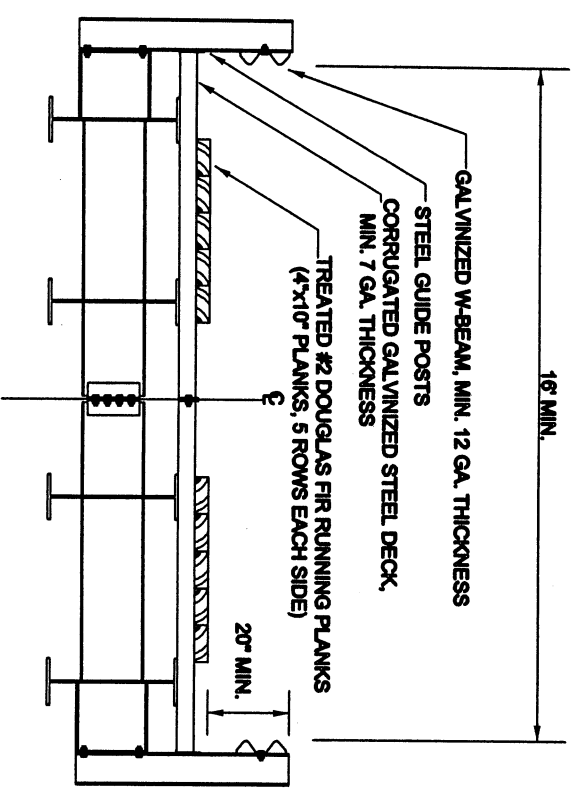
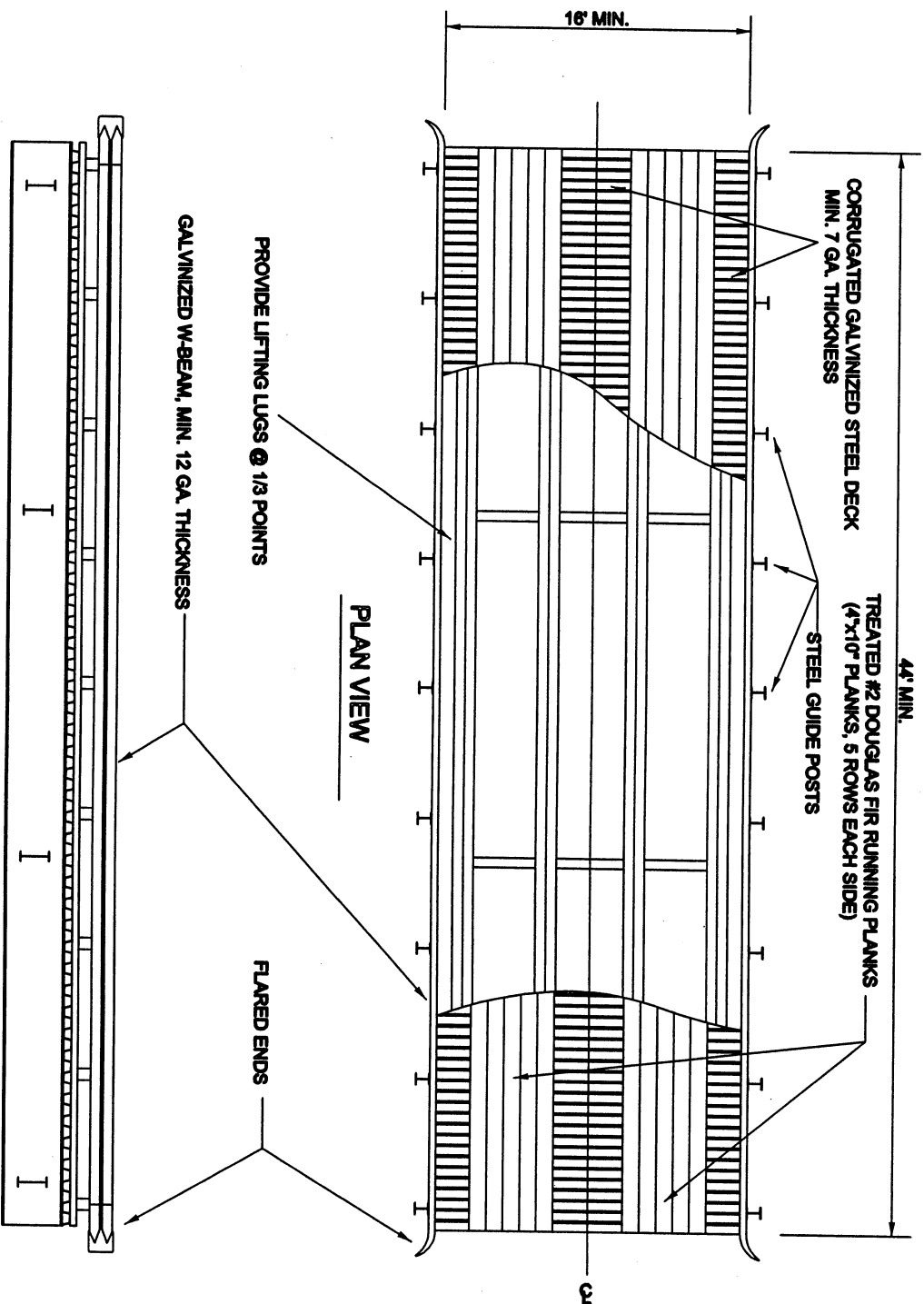
State of Washington
Department of Natural Resources
Pacific Cascade Region

Robert Hoffman
District Engineer
St. Helens District
November 23, 2004

J:/engineer/sales/adverse/adverse pit.dwg

NOTE: DETAILS ARE FOR ILLUSTRATION ONLY.
ACTUAL DESIGNS TO BE PROVIDED BY
PURCHASER AND APPROVED BY
CONTRACT ADMINISTRATOR.

16' X 44' BRIDGE



ELEVATION VIEW

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
DOGUE RIVERLAND, COMMISSIONER OF PUBLIC LANDS

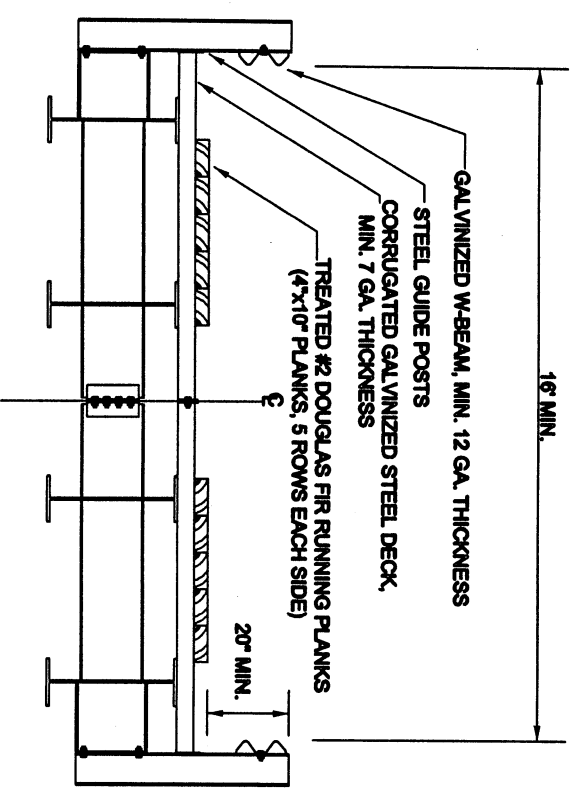
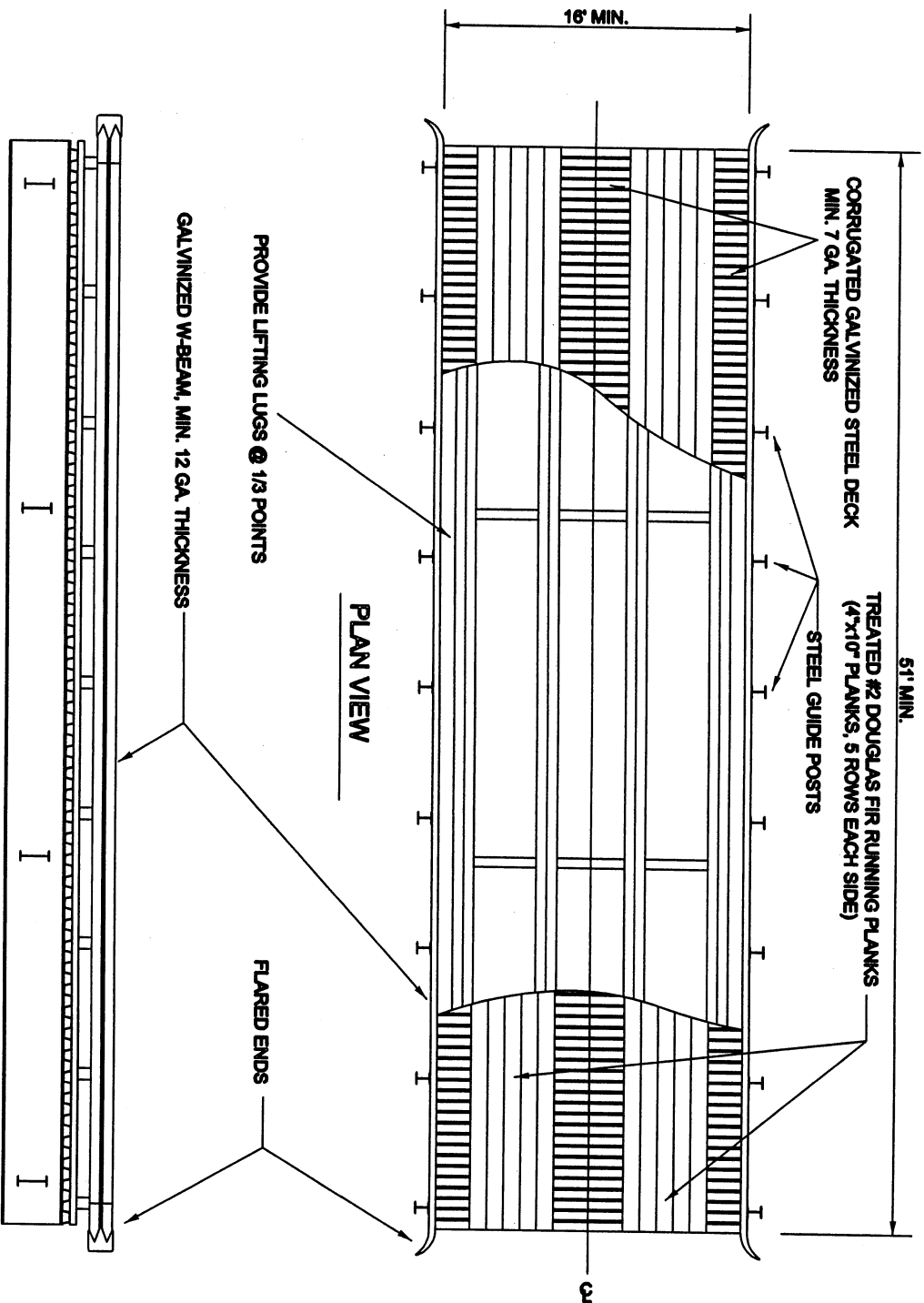
SALE NAME: ADVERSE
ROAD PLAN DATE: NOVEMBER 1, 2004

BRIDGE DETAIL A

AGREEMENT NUMBER: 30-078631
SHEET OF 1 OF 1

NOTE: DETAILS ARE FOR ILLUSTRATION ONLY.
ACTUAL DESIGNS TO BE PROVIDED BY
PURCHASER AND APPROVED BY
CONTRACT ADMINISTRATOR.

16' x 51' BRIDGE



CROSS SECTION

ELEVATION VIEW

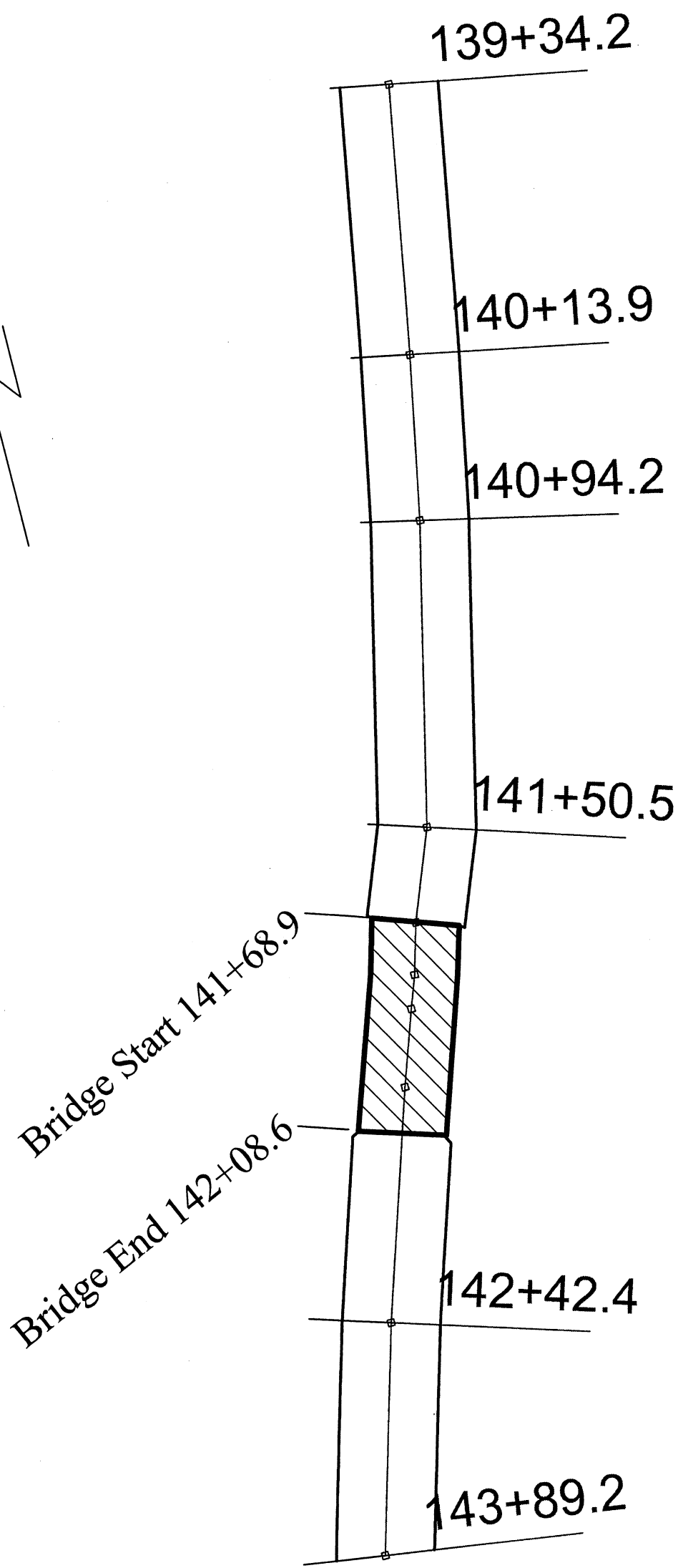
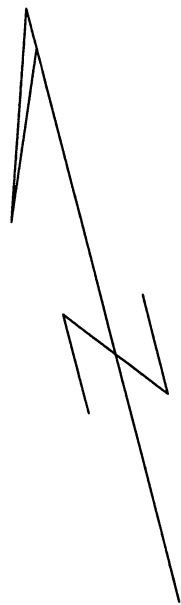
STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
DOUG SUTHERLAND, COMMISSIONER OF PUBLIC LANDS

SALE NAME: ADVERSE
ROAD PLAN DATE: NOVEMBER 1, 2004

BRIDGE DETAIL A

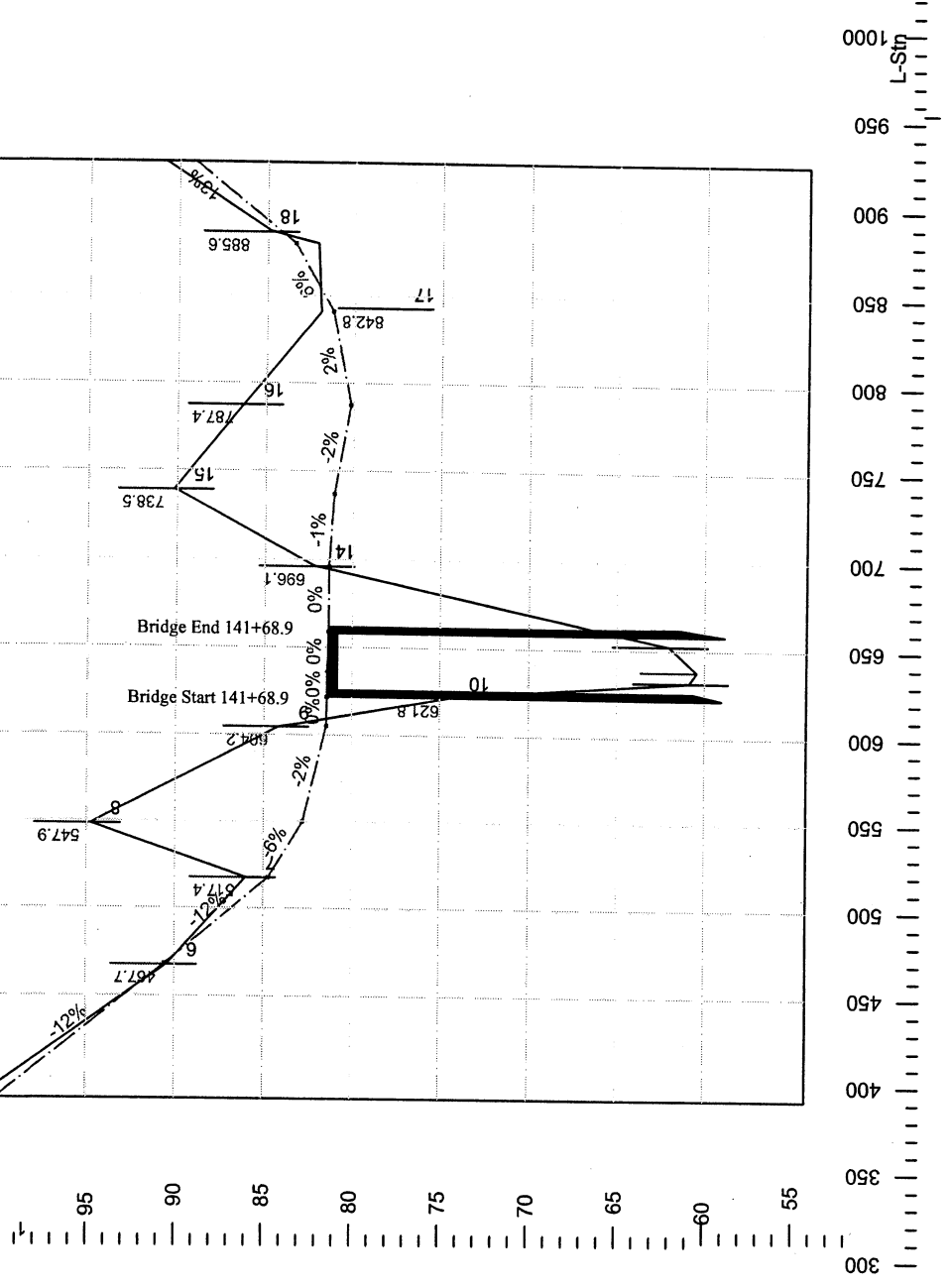
AGREEMENT NUMBER: 30-078631
SHEET OF 1 OF 1

Adverse Timber Sale Bridge Number 1
E-1000 Road New Construction.

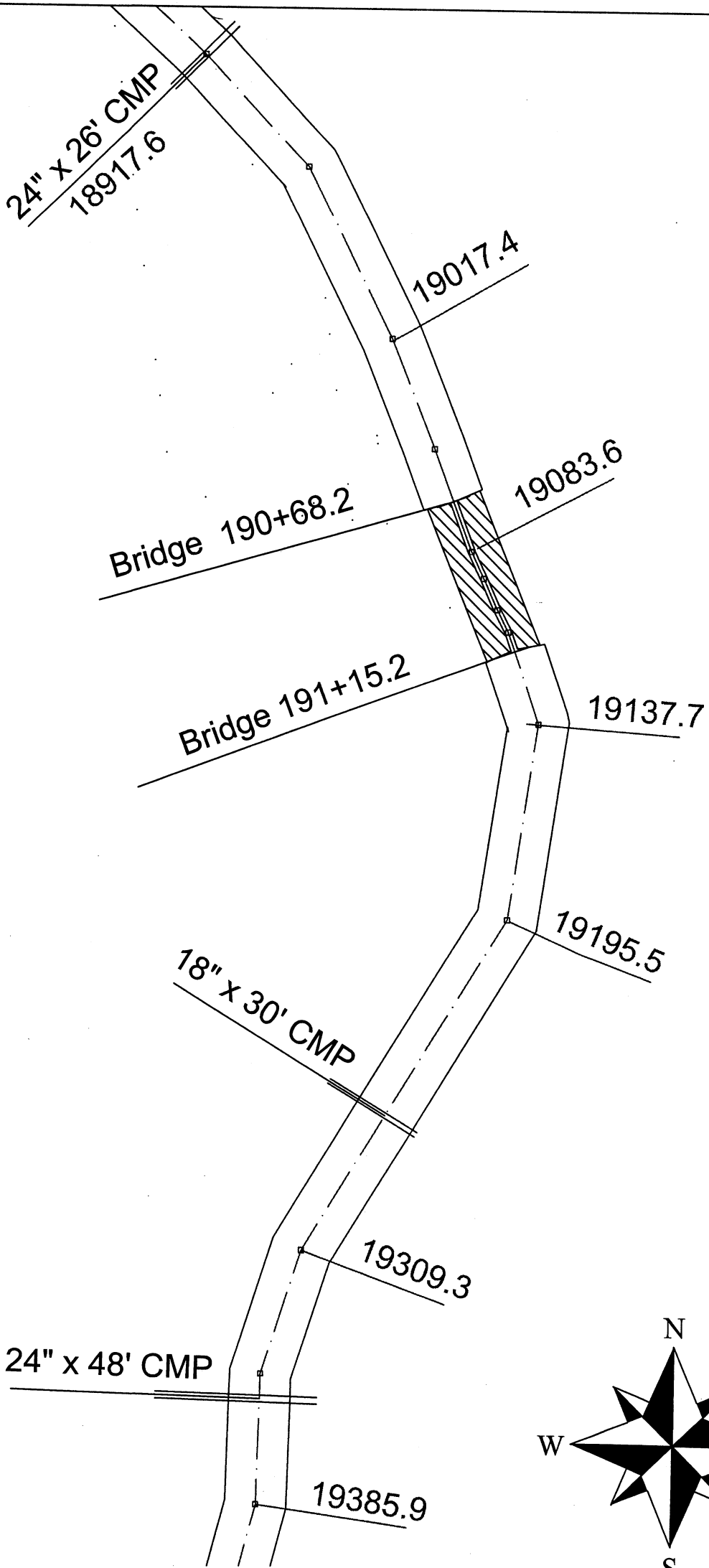


Profile view of the bridge deck showing elevation and grade percentages. The profile starts at station 141+68.9 (Bridge Start) and ends at station 141+68.9 (Bridge End). The profile shows a series of vertical curves and grades. Key points and grades are labeled:

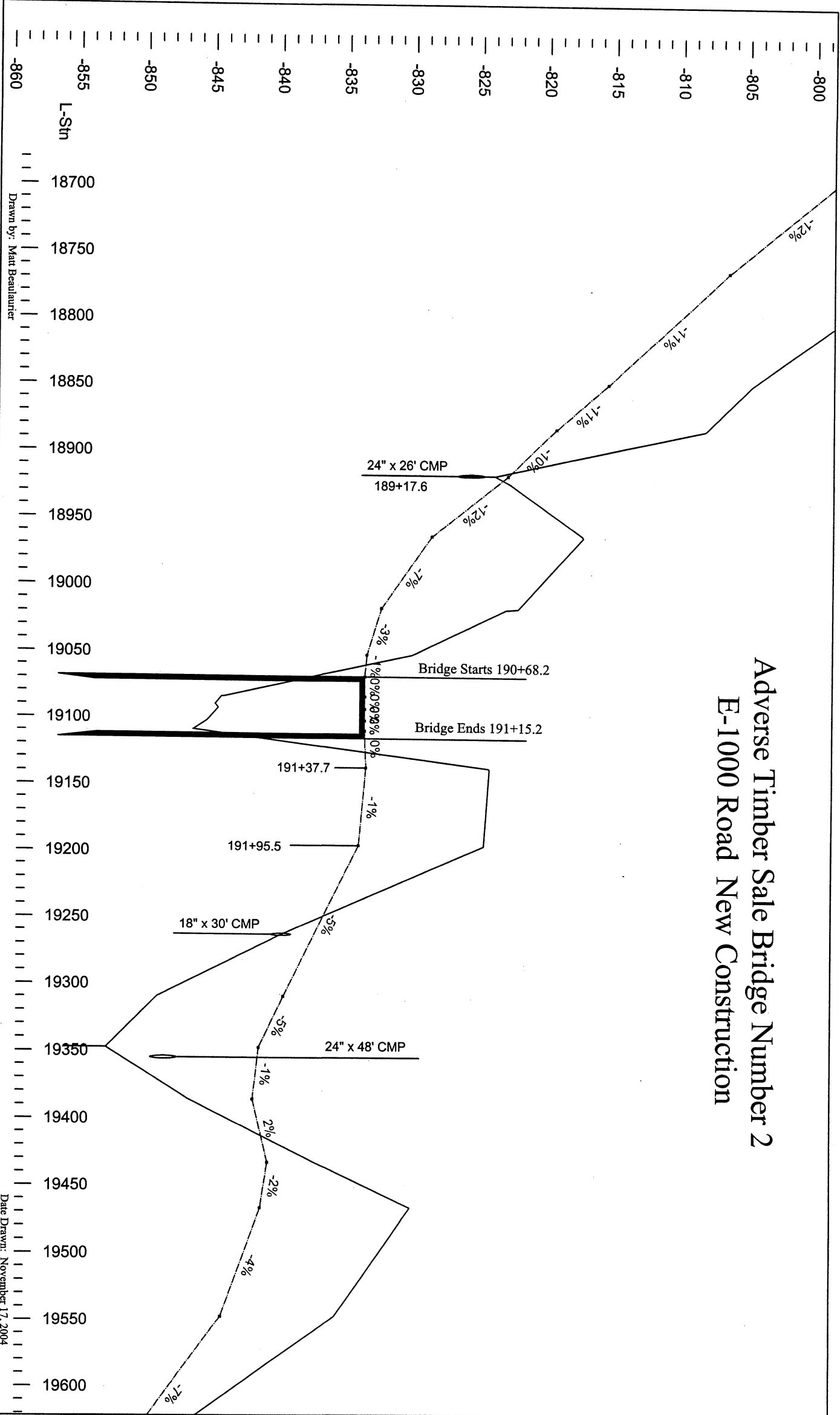
- Station 141+68.9 (Bridge Start): Elevation 621.8, Grade 0.0%
- Station 141+68.9 (Bridge End): Elevation 696.1, Grade 0.0%
- Station 141+68.9 (Bridge End): Elevation 738.5, Grade -1%
- Station 141+68.9 (Bridge End): Elevation 787.4, Grade -2%
- Station 141+68.9 (Bridge End): Elevation 842.8, Grade 2%
- Station 141+68.9 (Bridge End): Elevation 885.6, Grade 3%
- Station 141+68.9 (Bridge End): Elevation 921.7, Grade 4%
- Station 141+68.9 (Bridge End): Elevation 957.9, Grade 5%
- Station 141+68.9 (Bridge End): Elevation 994.2, Grade 6%
- Station 141+68.9 (Bridge End): Elevation 1030.5, Grade 7%
- Station 141+68.9 (Bridge End): Elevation 1066.8, Grade 8%
- Station 141+68.9 (Bridge End): Elevation 1103.1, Grade 9%
- Station 141+68.9 (Bridge End): Elevation 1139.4, Grade 10%
- Station 141+68.9 (Bridge End): Elevation 1175.7, Grade 11%
- Station 141+68.9 (Bridge End): Elevation 1212.0, Grade 12%
- Station 141+68.9 (Bridge End): Elevation 1248.3, Grade 13%
- Station 141+68.9 (Bridge End): Elevation 1284.6, Grade 14%
- Station 141+68.9 (Bridge End): Elevation 1320.9, Grade 15%
- Station 141+68.9 (Bridge End): Elevation 1357.2, Grade 16%
- Station 141+68.9 (Bridge End): Elevation 1393.5, Grade 17%
- Station 141+68.9 (Bridge End): Elevation 1429.8, Grade 18%
- Station 141+68.9 (Bridge End): Elevation 1466.1, Grade 19%
- Station 141+68.9 (Bridge End): Elevation 1502.4, Grade 20%
- Station 141+68.9 (Bridge End): Elevation 1538.7, Grade 21%
- Station 141+68.9 (Bridge End): Elevation 1575.0, Grade 22%
- Station 141+68.9 (Bridge End): Elevation 1611.3, Grade 23%
- Station 141+68.9 (Bridge End): Elevation 1647.6, Grade 24%
- Station 141+68.9 (Bridge End): Elevation 1683.9, Grade 25%
- Station 141+68.9 (Bridge End): Elevation 1720.2, Grade 26%
- Station 141+68.9 (Bridge End): Elevation 1756.5, Grade 27%
- Station 141+68.9 (Bridge End): Elevation 1792.8, Grade 28%
- Station 141+68.9 (Bridge End): Elevation 1829.1, Grade 29%
- Station 141+68.9 (Bridge End): Elevation 1865.4, Grade 30%
- Station 141+68.9 (Bridge End): Elevation 1901.7, Grade 31%
- Station 141+68.9 (Bridge End): Elevation 1938.0, Grade 32%
- Station 141+68.9 (Bridge End): Elevation 1974.3, Grade 33%
- Station 141+68.9 (Bridge End): Elevation 2010.6, Grade 34%
- Station 141+68.9 (Bridge End): Elevation 2046.9, Grade 35%
- Station 141+68.9 (Bridge End): Elevation 2083.2, Grade 36%
- Station 141+68.9 (Bridge End): Elevation 2119.5, Grade 37%
- Station 141+68.9 (Bridge End): Elevation 2155.8, Grade 38%
- Station 141+68.9 (Bridge End): Elevation 2192.1, Grade 39%
- Station 141+68.9 (Bridge End): Elevation 2228.4, Grade 40%
- Station 141+68.9 (Bridge End): Elevation 2264.7, Grade 41%
- Station 141+68.9 (Bridge End): Elevation 2301.0, Grade 42%
- Station 141+68.9 (Bridge End): Elevation 2337.3, Grade 43%
- Station 141+68.9 (Bridge End): Elevation 2373.6, Grade 44%
- Station 141+68.9 (Bridge End): Elevation 2409.9, Grade 45%
- Station 141+68.9 (Bridge End): Elevation 2446.2, Grade 46%
- Station 141+68.9 (Bridge End): Elevation 2482.5, Grade 47%
- Station 141+68.9 (Bridge End): Elevation 2518.8, Grade 48%
- Station 141+68.9 (Bridge End): Elevation 2555.1, Grade 49%
- Station 141+68.9 (Bridge End): Elevation 2591.4, Grade 50%
- Station 141+68.9 (Bridge End): Elevation 2627.7, Grade 51%
- Station 141+68.9 (Bridge End): Elevation 2664.0, Grade 52%
- Station 141+68.9 (Bridge End): Elevation 2700.3, Grade 53%
- Station 141+68.9 (Bridge End): Elevation 2736.6, Grade 54%
- Station 141+68.9 (Bridge End): Elevation 2772.9, Grade 55%
- Station 141+68.9 (Bridge End): Elevation 2809.2, Grade 56%
- Station 141+68.9 (Bridge End): Elevation 2845.5, Grade 57%
- Station 141+68.9 (Bridge End): Elevation 2881.8, Grade 58%
- Station 141+68.9 (Bridge End): Elevation 2918.1, Grade 59%
- Station 141+68.9 (Bridge End): Elevation 2954.4, Grade 60%
- Station 141+68.9 (Bridge End): Elevation 2990.7, Grade 61%
- Station 141+68.9 (Bridge End): Elevation 3027.0, Grade 62%
- Station 141+68.9 (Bridge End): Elevation 3063.3, Grade 63%
- Station 141+68.9 (Bridge End): Elevation 3099.6, Grade 64%
- Station 141+68.9 (Bridge End): Elevation 3135.9, Grade 65%
- Station 141+68.9 (Bridge End): Elevation 3172.2, Grade 66%
- Station 141+68.9 (Bridge End): Elevation 3208.5, Grade 67%
- Station 141+68.9 (Bridge End): Elevation 3244.8, Grade 68%
- Station 141+68.9 (Bridge End): Elevation 3281.1, Grade 69%
- Station 141+68.9 (Bridge End): Elevation 3317.4, Grade 70%
- Station 141+68.9 (Bridge End): Elevation 3353.7, Grade 71%
- Station 141+68.9 (Bridge End): Elevation 3390.0, Grade 72%
- Station 141+68.9 (Bridge End): Elevation 3426.3, Grade 73%
- Station 141+68.9 (Bridge End): Elevation 3462.6, Grade 74%
- Station 141+68.9 (Bridge End): Elevation 3498.9, Grade 75%
- Station 141+68.9 (Bridge End): Elevation 3535.2, Grade 76%
- Station 141+68.9 (Bridge End): Elevation 3571.5, Grade 77%
- Station 141+68.9 (Bridge End): Elevation 3607.8, Grade 78%
- Station 141+68.9 (Bridge End): Elevation 3644.1, Grade 79%
- Station 141+68.9 (Bridge End): Elevation 3680.4, Grade 80%
- Station 141+68.9 (Bridge End): Elevation 3716.7, Grade 81%
- Station 141+68.9 (Bridge End): Elevation 3753.0, Grade 82%
- Station 141+68.9 (Bridge End): Elevation 3789.3, Grade 83%
- Station 141+68.9 (Bridge End): Elevation 3825.6, Grade 84%
- Station 141+68.9 (Bridge End): Elevation 3861.9, Grade 85%
- Station 141+68.9 (Bridge End): Elevation 3898.2, Grade 86%
- Station 141+68.9 (Bridge End): Elevation 3934.5, Grade 87%
- Station 141+68.9 (Bridge End): Elevation 3970.8, Grade 88%
- Station 141+68.9 (Bridge End): Elevation 4007.1, Grade 89%
- Station 141+68.9 (Bridge End): Elevation 4043.4, Grade 90%
- Station 141+68.9 (Bridge End): Elevation 4079.7, Grade 91%
- Station 141+68.9 (Bridge End): Elevation 4116.0, Grade 92%
- Station 141+68.9 (Bridge End): Elevation 4152.3, Grade 93%
- Station 141+68.9 (Bridge End): Elevation 4188.6, Grade 94%
- Station 141+68.9 (Bridge End): Elevation 4224.9, Grade 95%
- Station 141+68.9 (Bridge End): Elevation 4261.2, Grade 96%
- Station 141+68.9 (Bridge End): Elevation 4297.5, Grade 97%
- Station 141+68.9 (Bridge End): Elevation 4333.8, Grade 98%
- Station 141+68.9 (Bridge End): Elevation 4370.1, Grade 99%
- Station 141+68.9 (Bridge End): Elevation 4406.4, Grade 100%



Adverse Timber Sale Bridge Number 2
E-1000 Road New Construction



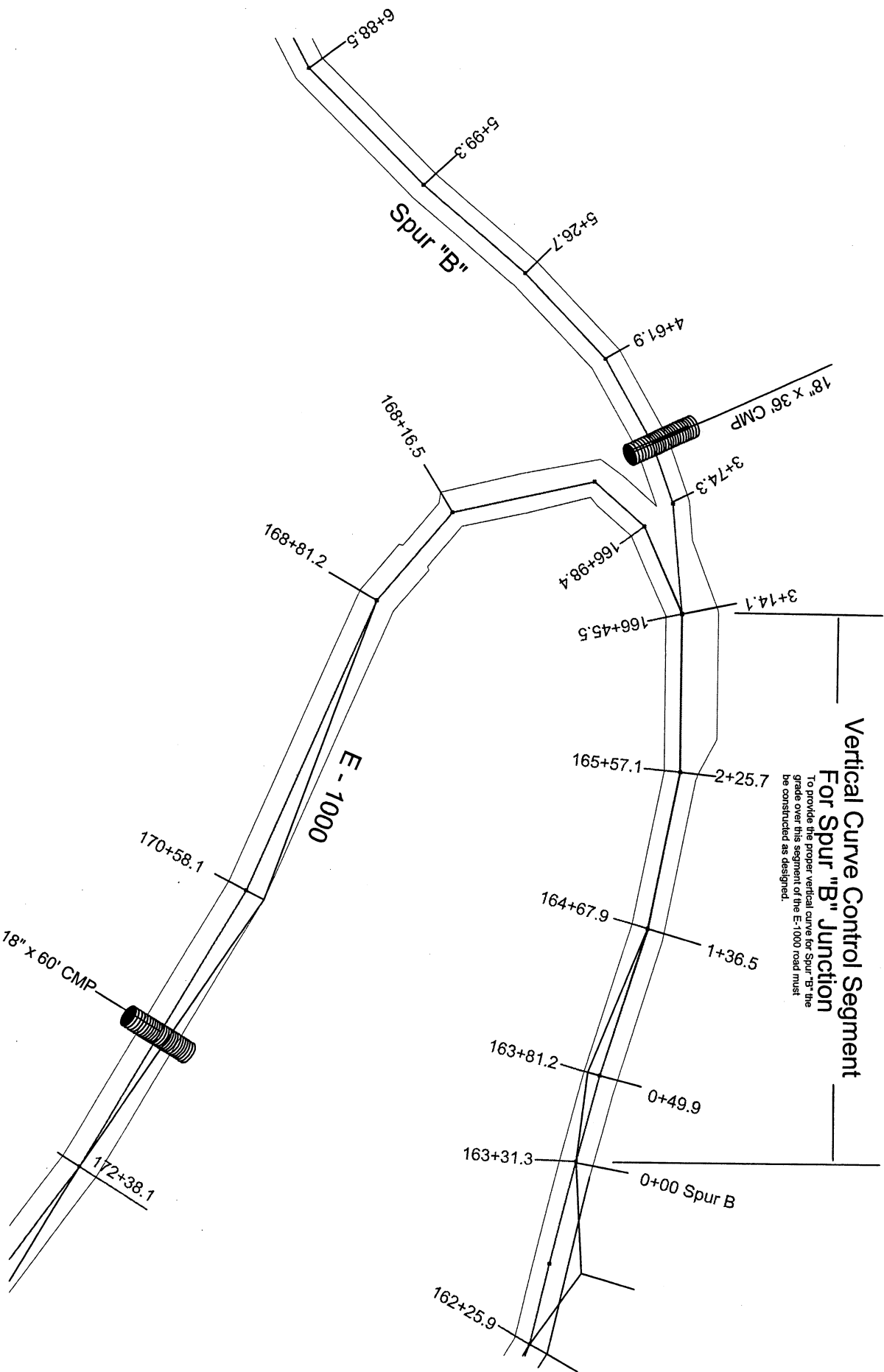
Adverse Timber Sale Bridge Number 2
E-1000 Road New Construction



Drawn by: Matt Beaulac

Date Drawn: November 17, 2004

E-1000 and Spur "B" Junction Detail



ROAD COST SUMMARY

Sale Name	Adverse	Agr. No. 30-0 76631	
Compiled by	Robert Hoffman	Date	January 18, 2005
		Road Cost	
Road No.	E-1000	\$	706,909.72
Road No.	Spur B	\$	28,377.33
Road No.	Spur A	\$	10,210.90
Road No.	Spur C	\$	2,751.88
Road No.	E-1000 Reconst.	\$	34,960.00
Total		\$	783,209.82
Sale Volume		9,925	\$/Mbf 78.91

ROAD COSTING FORM

Sale Name

Adverse

Agr. No. 30- 76631

Road No.

E-1000

Compiled by

Robert Hoffman

Date

New Construction
January 18, 2005

No. of Stations

263.3

R/W Width

CLEARING & GRUBBING

Cat days:	20	@	\$	1000.00	=	\$	20000.00	
Excavator days	20	@	\$	1000.00	=	\$	20000.00	
Revegetation:	135	@	\$	40.00	=	\$	5400.00	\$ 45,400.00

EXCAVATION

Cat days:	20	@	\$	1000.00	=	\$	20000.00	
Excavator days	40	@	\$	1000.00	=	\$	40000.00	
Endhaul volume	52000	@	\$	2.00	=	\$	104000.00	\$ 164,000.00

BALLAST & SURFACING

Depth	yds/sta	X	stations	=	yards
15"	84		179		15036
12"	67		85		5695
Turnouts	84		30		2520
6"	24		194		4656

UNIT COSTS	Ballast	Surfacing	Surface
Drill & shoot	2.50		
Dig & load	1.00	1.00	
Purchase			
Haul	2.00	2.00	
Spread	0.30	0.30	
Compact	0.50	0.50	
Strip/Reclaim	0.50		
Crush	2.50		
Total	9.30	3.80	

Ballast Source: SW1/4, SE1/4 Sec. 30, T10N, R4W plus on site rock
Surface Source: Stockpile (8000 cubic yards)
Surface Source:

Ballast	23251	yds @ \$	9.30	/yds = \$	216234.30	
Surface	4656	yds @ \$	3.80	/yds = \$	17692.80	
Surface		yds @ \$		/yds = \$		\$ 233,927.10

CULVERTS & FLUMES

G-(Galvanized) P-(Plastic) ED-(energy dissipator) F-(flume)

Diam.	No.	Ga.	Type	Length	Cost/ft	Total	
18"	48	16		1587	18.00	28566.00	
24"	2	16		74	24.00	1776.00	
30"	3	10		177	30.00	5310.00	\$35,652.00
Bridges: 1 at 44' , 1 at 51'				44	1375.00	60500.00	
Cost includes purchase and install				51	1375.00	70125.00	\$ 130,625.00

ABANDONMENT

Excavator days	@	\$			
	@	\$			\$
OTHER					\$

MOVE IN	Dozer	@	\$	500.00	
	Excavator	@	\$	500.00	
	Dumps	@	\$	600.00	
	Crusher	@	\$	3500.00	\$ 5100.00

Cost per Station \$ 2684.81

GENERAL EXPENSES	Subtotal \$ 614,704.10	Subtotal X 1.15%	Total \$ 706,909.72
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ROAD COSTING FORM

Sale Name Adverse **Agr. No. 30-** 76631 **Road No.** Spur A
Compiled by Robert Hoffman **Date** New Construction
No. of Stations 12.66 **R/W Width** January 18, 2005

CLEARING & GRUBBING

_____ Cat days:	<u>0.5</u>	@	\$	<u>1000.00</u>	=	\$	<u>500.00</u>	
_____ Excavator days	_____	@	\$	_____	=	\$	_____	
_____ Revegetation:	_____	@	\$	_____	=	\$	_____	\$ <u>500.00</u>

EXCAVATION

_____ Cat days:	<u>0.5</u>	@	\$	<u>1000.00</u>	=	\$	<u>500.00</u>	
_____ Excavator days	_____	@	\$	_____	=	\$	_____	
_____ Endhaul volume	_____	@	\$	_____	=	\$	_____	\$ <u>500.00</u>

BALLAST & SURFACING

Depth	yds/sta	X	stations	=	yards
<u>12</u>	<u>51</u>		<u>12.66</u>		<u>645.66</u>
Landing and turn-around					
<u>12</u>	<u>51</u>		<u>2</u>		<u>102</u>
_____	_____		_____		_____
_____	_____		_____		_____
_____	_____		_____		<u>747.66</u>

UNIT COSTS	Ballast	Surfacing	Riprap
Drill & shoot	2.50		
Dig & load	0.93		
Purchase			
Haul	2.00		
Spread	0.30		
Compact	0.50		
Strip/Reclaim	0.50		
Crush	2.50		
Total	9.23		

Ballast Source: (section 30 pit)
 Surface Source: _____
 Riprap Source: _____

Ballast	<u>748</u>	yds @	\$	<u>9.23</u>	/yds = \$	<u>6904.04</u>	
Surface	_____	yds @	\$	_____	/yds = \$	_____	
Riprap	_____	yds @	\$	_____	/yds = \$	_____	\$ <u>6,904.04</u>

CULVERTS & FLUMES

G-(Galvanized) P-(Plastic) ED-(energy dissipator) F-(flume)

Diam.	No.	Ga.	Type	Length	Cost/ft	Total
<u>18"</u>	<u>1</u>	<u>16</u>		<u>50</u>	<u>19.50</u>	<u>975.00</u>
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____

\$ 975.00

ABANDONMENT

_____	@	\$	_____	
_____	@	\$	_____	\$ _____

OTHER

MOVE IN	@	\$	_____	
_____	@	\$	_____	
_____	@	\$	_____	
_____	@	\$	_____	\$ _____

Cost per Station \$ 806.55

GENERAL EXPENSES Subtotal \$ 8879.04 Subtotal X 1.15% **Total** \$ 10,210.90

ROAD COSTING FORM

Sale Name

Adverse

Agr. No. 30- 76631

Road No.

Spur B

Compiled by

Robert Hoffman

Date

New Construction
January 18, 2005

No. of Stations

16.9

R/W Width

CLEARING & GRUBBING

Cat days:

2

@

\$

1000.00

=

\$

2000.00

Excavator days

@

\$

=

\$

Revegetation:

16.9

@

\$

40.00

=

\$

676.00

\$ 2,676.00

EXCAVATION

Cat days:

2

@

\$

1000.00

=

\$

2000.00

Excavator days

@

\$

=

\$

Endhaul volume

1000

@

\$

2.00

=

\$

2000.00

\$ 4,000.00

BALLAST & SURFACING

Depth

yds/sta

X

stations

=

yards

15

84

17.33

1455.72

Surfacing

24

10.2

244.8

Landings and Turnouts

15

84

3

252

UNIT COSTS	Ballast	Surfacing	Riprap
Drill & shoot	2.50		
Dig & load	0.93	0.93	
Purchase			
Haul	2.00	1.75	
Spread	0.30	0.30	
Compact	0.50	0.50	
Strip/Reclaim	0.50	0.50	
Crush	2.50		
Total	9.23	3.98	

Ballast Source:

Surface Source:

Riprap Source:

Ballast

1708

yds @

\$

9.23

/yds = \$

15764.84

Surface

245

yds @

\$

3.98

/yds = \$

975.10

Riprap

yds @

\$

/yds = \$

\$ 16,739.94

CULVERTS & FLUMES

G-(Galvanized) P-(Plastic) ED-(energy dissipator) F-(flume)

Diam.

No.

Ga.

Type

Length

Cost/ft

Total

18"

2

16

70

18.00

1260.00

\$ 1,260.00

ABANDONMENT

Excavator days

@

\$

@

\$

\$

OTHER

MOVE IN

@

\$

@

\$

@

\$

@

\$

\$

Cost per Station \$ 1679.13

GENERAL EXPENSES

Subtotal \$ 24675.94

Subtotal X 1.15%

Total \$ 28,377.33

Sale Name	<u>Adverse</u>	Agr. No. 30- <u>76631</u>	Road No.	<u>Spur C</u>
Compiled by	<u>Robert Hoffman</u>	Date	<u>New Construction</u>	
No. of Stations	<u>3.48</u>	R/W Width	<u></u>	

Cat days:	<u>0.25</u>	@	\$	<u>1000.00</u>	=	\$	<u>250.00</u>	
Excavator days	<u> </u>	@	\$	<u> </u>	=	\$	<u> </u>	
Revegetation:	<u> </u>	@	\$	<u> </u>	=	\$	<u> </u>	
								<u>\$ 250.00</u>

Cat days:	<u>0.25</u>	@	\$	<u>1000.00</u>	=	\$	<u>250.00</u>	
Excavator days	<u> </u>	@	\$	<u> </u>	=	\$	<u> </u>	
Endhaul volume	<u> </u>	@	\$	<u> </u>	=	\$	<u> </u>	\$ <u>250.00</u>

[illegible]

UNIT COSTS	Ballast	Surfacing	Riprap
Drill & shoot	2.50		
Dig & load	0.93		
Purchase			
Haul	2.00		
Spread	0.30		
Compact	0.50		
Strip/Reclaim	0.50		
Crush	2.50		
Total	9.23		

Ballast Source: (section 30 pit)
Surface Source:
Riprap Source:

Ballast	<u>178</u>	yds @ \$	<u>9.23</u>	/yds = \$	<u>1642.94</u>	
Surface	<u> </u>	yds @ \$	<u> </u>	/yds = \$	<u> </u>	
Riprap	<u> </u>	yds @ \$	<u> </u>	/yds = \$	<u> </u>	\$ <u>1,642.94</u>

G-(Galvanized) P-(Plastic) ED-(energy dissipator) F-(flume)

[illegible]

Excavator days	0.25	@	\$	1000.00	
Dump Truck		@	\$		\$ 250.00

MOVE IN	_____	@	\$	_____	
	_____	@	\$	_____	
	_____	@	\$	_____	
	_____	@	\$	_____	\$ _____

Cost per Station \$ 790.77

GENERAL EXPENSES	Subtotal \$	<u>2392.94</u>	Subtotal X 1.15%	Total	\$	<u>2,751.88</u>
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ROAD COSTING FORM

Sale Name Adverse Agr. No. 30- 76631 Road No. E-1000 Reconst.
 Compiled by Robert Hoffman Date Re-construction
January 18, 2005

No. of Stations _____ R/W Width _____

CLEARING & GRUBBING

_____ Cat days: _____ @ \$ _____ = \$ _____
 _____ Excavator days _____ @ \$ _____ = \$ _____
 _____ Revegetation: _____ @ \$ _____ = \$ _____
 \$ _____

EXCAVATION

_____ Cat days: _____ @ \$ _____ = \$ _____
 _____ Excavator days _____ @ \$ _____ = \$ _____
 Endhaul volume _____ @ \$ _____ = \$ _____
 \$ _____

BALLAST & SURFACING

Depth yds/sta X stations = yards

UNIT COSTS	Ballast	Surfacing	Riprap
Drill & shoot		2.50	
Dig & load		1.00	
Purchase			
Haul		1.00	
Spread		0.30	
Compact		0.30	
Strip/Reclaim			
Crush		2.50	
Total		7.60	

Ballast Source: _____
 Surface Source: _____
 Riprap Source: _____

Ballast _____ yds @ \$ _____ /yds = \$ _____
 Surface 4000 yds @ \$ 7.60 /yds = \$ 30400.00
 Riprap _____ yds @ \$ _____ /yds = \$ _____
 \$ 30,400.00

CULVERTS & FLUMES

G-(Galvanized) P-(Plastic) ED-(energy dissipator) F-(flume)

Diam.	No.	Ga.	Type	Length	Cost/ft	Total

\$ _____

ABANDONMENT

_____ Excavator days _____ @ \$ _____
 _____ @ \$ _____
 \$ _____

OTHER

\$ _____

MOVE IN

_____ @ \$ _____
 _____ @ \$ _____
 _____ @ \$ _____
 _____ @ \$ _____
 \$ _____

Cost per Station \$ _____

GENERAL EXPENSES

Subtotal \$ 30400.00

Subtotal X 1.15%

Total \$ 34,960.00